THE GENESEE FARMER

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DAIRY HUSBANDRY IN NEW YORK.

About forty years ago the dairy business was commenced as a distinct branch of husbandry, in the State of New York, under favorable auspices. It had a slow growth for twenty years, during which several millions of acres of native forests were cleared and brought under the plow, and paid a larger immediate profit in grain culture, than could be realized from milk, butter, and cheese. As the virgin soil parted with its elements of crops by tillage, and failed to produce remunerating harvests, farmers extended their pastures and meadows, and diminished their grain fields, until New York has become the largest stock growing and dairy State in the Union. It has about sixty per cent. more capital invested in live stock than either Ohio or Pennsylvania, according to the census of 1850. The returns are respectively as follows: New York, $73,570,499; Ohio, $44,121,741; Pennsylvania, $41,500,053. The six New England States contained live stock worth $49,867,721. These figures reveal the interesting fact that New York contains more live stock by $23,702,777 than all New England. The latter contained in June 1850, 618,237 milch cows; New York, 931,324; being fifty per cent. more than the six New England States.

New York reported at the last census, 49,741,413 pounds of cheese, and 79,766,094 pounds of butter. The six New England States reported 27,128,778 pounds of cheese, and 43,637,477 pounds of butter. If we divide the number of pounds of butter made in New England, by the number of cows, the average is a fraction over seventy pounds a head. In New York the average is eighty-five pounds ten ounces to each cow. Of cheese the average in New York is fifty pounds five ounces; in New England it is forty-three pounds thirteen ounces. These figures show that the cows of New York produce some twenty per cent. more butter, and twelve per cent. more cheese than the cows of New England. Do the former yield any more milk each on an average than the latter?

We think that they do; not alone from the facts above stated in reference to butter and cheese, but because the population of New York in 1850 exceeded that of New England, by 363,174. New York contained 3,090,022; New England, 2,726,848 inhabitants. There is no good reason for believing that the people of New York consume less milk per capita, than the people of New England, before it is used for making butter or cheese; and if they do not, then a larger population by 363,174 should leave a less quantity of milk for dairy purposes. Hence we infer that the dairy cows of New York are superior as a whole, to those of New England; and we will now add that they are not only better than those of any other State in this country, but better than any which exist in Ireland, England, or Scotland, or on the continent of Europe, taken as a whole.

To do full justice to the dairy husbandry of New York in comparison with that of

Great Britain, Ireland, and other nations, as well as with the several States of this Republic, would require the space of a volume, and much more labor than we can bestow upon the subject. There are some State statistics, however, bearing on the improvement of the dairy stock in New York, to which we invite particular attention, as deserving of far more consideration than they have hitherto received. In drawing up the bill and schedules for the collection of the agricultural statistics of New York in 1845, (as chairman of the committee on agriculture,) the writer was careful to have all the cows milked in the State counted. This was done, and resulted in a total of 999,490; and now showing a falling off in 1850 of 68,066. Large as this decrease appears, it is really larger than the figures indicate.

There was a difficulty in stating in the census of 1850, the number of cows actually milked in each State, because in some States most of the cows giving milk rear their calves by their sides, and are never milked by hand at all. Hence the schedule calls for "milch cows," in which dry cows are returned as belonging to this division of neat stock, rather than to "other cattle," or "working oxen." In New York, one cow in twenty, (perhaps one in fifteen,) gives no milk. Deducting the former number, or five per cent. from the 931,324 returned in 1850 for dry cows, and the number milked would be 874,758. These figures show that the number milked in 1850 was 124,732 less than in 1845. Possibly this estimate of the reduction may a little exceed the truth; but the aggregate falling off in five years of the neat stock in the State, was 194,691; or nearly 200,000 head. Of this diminution, it is safe to say that one-half were cows; indicating a falling off of about ten per cent. in five years.

We come now to the interesting and exceedingly instructive fact, that nine hundred thousand cows (in round numbers,) yielded more milk, butter, and cheese, (being better milkers and better kept,) in 1850, than a million did in 1845. The cheese returned in 1845 was 36,747,976 pounds. These figures are less than the returns of 1850, by 12,991,437 pounds. The pounds of butter in 1845 were 79,501,733, showing an increase in five years of 264,361 pounds. These figures are the more note-worthy from the fact that while nine cows actually yielded more cheese and butter than ten did, the population to consume milk every day in the year, before it was made into cheese or butter, was 494,323 larger in the State in 1850, than in 1845. Of course it is impossible to say how much milk this increase of population would consume; but in 1845 there was a fraction over five persons to two cows in the State. At this ratio of increase, the number of cows in 1850 should be nearly 1,200,000 instead of 931,324. No one, we trust, will understand us as intimating that all the cows in New York are good milkers, or are properly kept. We desire simply to do justice to the intelligent dairymen and farmers, who, during the last forty years have rendered their country an invaluable service. These are the men who sustain our State and County agricultural societies, and the agricultural press, and with whom it is an honor to co-operate for the advancement of the arts and sciences which belong to the several branches of rural affairs.

Dairy husbandry has a deeper philosophy than many suppose; nor can it be comprehended without considerable close thinking and study. Let the pastures and meadows of a dairyman represent a thousand tons of grass per annum exclusive of the water which the forage may contain. This forage is to be fed to cows for the most economical production of milk, butter and cheese. Would it not be cheaper in the long run for him to pay $50 a head for first rate milkers than to take poor ones as a free gift? We believe that poor cows do not pay the cost of their keep, or the value of their food twelve months in that length of time; therefore the more of such animals there is in a County or State, the poorer it is in agricultural wealth and income. In the State of New York, a mean animal is a tax upon its owner and the community, and should be so regarded by all. As the natural resources of the soil become exhausted, farmers can less afford to keep inferior animals of any kind; for the first cost of grain, hay, grass,

roots, and straw, increases with the increase of manure needed to produce good crops. In 1845, New York contained 6,443,865 sheep; in 1850 the number was reduced to 3,453,241; decrease in five years 2,990,624. The number of sheep slaughtered in the five years named, was much larger than the difference between the larger and smaller sums, otherwise the natural increase would have prevented so great a reduction. It was necessity that cut their throats. To replace three millions of sheep by dairy stock, at least four hundred thousand cows would be required. We shall take another occasion to demonstrate beyond all dispute, that not less than eight and a half of the twelve and a half million acres of land under improvement in New York is suffering deterioration at the rate of three dollars a year by parting with its elements of fertility. What we desire at this time is to call attention to the science of transforming the proper food of cows into milk, so that any given quantity of forage shall yield the maximum of dairy products.

The elements of this science are both anatomical and physiological; they relate to the digestive, respiratory, assimilative, and milk-secreting organs of the cow. Improper feeding will result in a far greater loss of milk from any given amount of food consumed even by a good cow, than would be likely to occur from a poor cow, if properly fed. In the first place, each and every lactiferous animal is compelled to support the natural warmth of her body by respiration, which never ceases, and literally burns up nearly, if not quite two-thirds of the aliment which passes through the walls of the intestines into the blood vessels; and from whose blood milk is separated. Not only does breathing take priority of milk-making in the economy of nature, but the daily and indispensable repair of every muscle, bone, membrane, nerve, and other organ, also claims priority to the full secretion of milk. In a word, the blood of a cow takes care of her system first, before it yields more than a trifle to feed her offspring, for whose benefit milk is elaborated.

Milk being the natural surplus of food in the blood vessels, over and above what the ever pressing calls of respiration and nutrition demand, we trust that it is not difficult for the reader to comprehend the fact that a given amount of aliment thrown into the stomachs of four cows, may yield twice the surplus, after supplying all the wants of their systems, to be transformed into milk, which could be obtained if the aliment had five systems to warm and support instead of four. In the case assumed, there is nutriment enough to keep four cows in sound and vigorous health, and allow each to have a surplus in her blood, equal to the formation of four or five gallons of milk in twenty-four hours. Divide this mass of food or aliment into five parts instead of four, and the breathing and other vital functions of the fifth cow, (we care not how excellent a milker she may be,) will consume and substantially waste full one-half of what might have been milk in the lacteal glands of four cows.

It is not enough to have first rate cows; the dairyman should know so much of their anatomy and physiology, as to be able to use the living machines in his possession to the best advantage. A good machine of any kind in the hands of an ignorant unskillful operator, uniformly turns out bad work. That is, the net profit is much less than it ought to be. Without entering into any explanation of the science of dairy physiology, the reader may make this induction from our remarks: The dairyman should keep no poor cows, and as few good ones as will consume the food to be converted into milk. If he intends to feed high, let the transition from low to high feeding be gradual; all sudden changes are injurious, whether upward or downward in their course. Provide, by the aid of corn grown for forage, by manuring pastures and meadows, and by root culture, a plenty of food for whatever cows are kept for dairy purposes. Have yards and stables so arranged and littered with straw, muck, forest leaves, or some other absorbent, as to preserve from waste or loss all the droppings of domestic animals.

After the writer came to Washington in 1849, to take charge of the agricultural

department of the Patent office, he went immediately to the office of the Census Board, to get the agricultural schedule changed so far as to enumerate all the cows in the United States. This was done, and the number returned by the marshalls was six million three hundred and ninety-one thousand nine hundred and forty-six. For what useful purpose was this separation of milch kine from other neat stock? This is a question which every farmer ought to study. A general and most valuable improvement of the bovine race was contemplated by the mover in this matter, who had long felt the necessity of reliable agricultural statistics. The six and a half million cows in the United States now yield less than a moiety of the milk which the food consumed is capable of producing. Now, if we had an experimental dairy farm, with the needful appliances, we would soon demonstrate the truth of this statement in the most satisfactory manner. But public opinion is not yet ripe for the application of science to American husbandry; and therefore no truly scientific experiments, like those of Boussingault and Thompson, are likely to be made in this country during the life of the present generation. According to the experiments of M. Perrault and Pabst, a cow giving a full flow of milk, needs six and a quarter pounds of good hay or its equivalent in grass or roots for every 220 pounds live weight.

We will take an early occasion to resume the consideration of this subject, and endeavor to point out what part of the food consumed is voided by the bowels; what part by the kidneys; what by the lungs; what by sensible and insensible perspiration, and what through the udder as milk, in a good cow, properly fed and otherwise cared for. It is not too much to say that one hundred million dollars a year may be added to the income of the country by the judicious improvement of dairy stock, which implies equal improvement in their management and keep.

MAPES' IMPROVED SUPERPHOSPHATE OF LIME.

It will be recollected that in the December number of the *Farmer* we made a few comments on some statements by the editor of the *Working Farmer*, respecting the manufacture and value of "Mapes' Improved Superphosphate of Lime." What we particularly called attention to, was the assertion of the editor that his improved superphosphate of lime could not be made in England for $100 per ton. Now it would appear to be of little consequence to us whether it could or could not be there manufactured for this sum; but, judging from the frequent reiteration of this assertion, the editor is of a different opinion. He knows that superphosphate of lime has been extensively used in England for the last ten years; British farmers therefore have had ample time to ascertain its comparative value, and to what particular crops it is best applied. He also knows that about seven million dollars worth of guano is used per annum in Great Britain. Now the editor wishes to have it understood that his improved superphosphate of lime is much more valuable than the best Peruvian guano; and to reconcile this assertion with the fact that such immense quantities of guano are used in England, where the value of superphosphate has been fully tested, the editor would have his readers believe that his improved superphosphate of lime cannot be made in England for twice what it sells for in this country. He says if it could be made in England for $100 per ton, it would sell readily, and would soon, to his certain knowledge, take precedence of all other fertilizers. If this is so, how cheap a manure this must be to us American farmers at only $50 per ton.

The editor objects to our publishing the analysis of his manure by Dr. Antisell, on the ground that it was not a fair sample of the article. He publishes another analysis of Dr. Antisell, of a sample sent by Mapes' manufacturer, which is of course as good

as the average. This sample appears to have been free from the lumps and undecomposed animal charcoal, which composed more than half the sample sent us. This analysis does not show whether the article is or is not a good superphosphate. It does not give us the per centage of ammonia, or of *soluble bi-phosphate of lime*,—the two ingredients of most value in any manure. It is said to have contained *free ammonia*. We are at a loss to know how a good *super*-phosphate mixture could contain *free* ammonia. But let that pass.

There is an analysis of "Mapes' improved superphosphate of lime," in the *Country Gentleman*, of March 3d, by Prof. S. W. JOHNSON, of Yale College, which is far more satisfactory, and clearly sets forth the true value of the manure. The thanks of the agricultural community are due Prof. JOHNSON, for these critical and valuable analyses. According to this analysis, 100 lbs. of "Mapes' improved superphosphate of lime" is composed of sulphate of lime, (plaster) 37 lbs.; *insoluble* phosphate, 21 lbs.; *soluble* superphosphate of lime, 15 lbs.; free sulphuric acid, 5 lbs.; ammonia, 2⅓ lbs. The non-nitrogenous organic matter, water, and sand, which compose the other 20 lbs., are of course of but little value. This, then, is the manure that is far superior to Peruvian guano, and which cannot be duplicated in England for $100 per ton.

Now, the fact is, that several thousand tons of superphosphate of lime, or as it is generally called "turnip manure," are annually sold in England, warranted to contain 18 *per cent.* of soluble superphosphate of lime, (MAPES' containing only 15,) *and in every other respect equal to* MAPES' *improved article*, for $28,22 per ton, wholesale. Comment on these facts (which we are prepared to prove) is unnecessary. We would not be understood as saying that Prof. MAPES' manure is of little value. On the contrary, if it contains 15 per cent. of bi-phosphate of lime, it is one of the best manures that can be used for ruta baga, lettuce, radish, and other garden crops; and we recommend all our readers who intend sowing ruta baga and other turnip crops, to *drill in* with the seed about 300 lbs., of this manure, per acre, believing that it will pay them to do so, even at the high prices charged for it. As a manure for wheat, maize, barley, oats, timothy, and potatoes, we again assert, and we have had considerable experience in the use of both manures, that Peruvian guano will be found much more valuable than this improved, or any other superphosphate of lime; and even for turnips, if both are sown *broadcast*, we should prefer guano to superphosphate of lime.

SPRING WORK.

APRIL has at length arrived, ushering in the farmers' busy season. All that could be done in winter to facilitate spring work has, we trust, been accomplished. Everything is in readiness—plows, drags, roller, whiffletrees, clevices, all are fixed for action; seed barley, oats, peas, corn, clover, timothy, potatoes, carrots, beets, &c., &c., are all obtained. The farmer has long concluded where he will sow this or that particular crop; he only waits for fine weather and a dry soil to commence operations. You need not wait, there is plenty to be done. We hope you have a large quantity of well prepared barn-yard manure, composts, &c. These can be drawn out on the soil and spread, ready to commence plowing. But, says a scientific objector, that is not right, a good deal of the most valuable part of the manure will fly off and be lost if spread and allowed to remain exposed for a week or two. This is certainly an objection, and were it not for the great convenience of drawing out manure previous to commencing plowing, we should not recommend it. There is doubtless some loss, but if the manure has been well prepared, and is not in an active state of fermentation, it is not so great as many suppose. To what crop is manure most profitably applied? We cannot satisfactorily

answer this question to our own mind. Will some of our experienced correspondents give us their views on this point? We would premise that it depends somewhat on the relative prices of the various crops.

Barley is usually sown after corn. It seldom does well on a recently inverted sod. It delights in a gravelly, light, warm soil; requires fine tilth and early sowing — the earlier the better. Two bushels seeds per acre is none too much. If the soil has been well worked the past year with corn and is free from weeds, we would seed it down with clover. Barley is often followed by good wheat crops, but strong fertile land is required, or such a course of cropping will soon impoverish it.

Oats should be sown as soon after the barley as possible. Two bushels per acre is the usual quantity sown in Western New York. A little more seed would be better on most soils. Oats do better on heavy soil than barley or corn. It is a general opinion here, that wheat does not do so well after oats as after barley. We are by no means satisfied that such is a fact. Let us have your experience on this point? If such is the case, it is probably owing to oats yielding a much larger crop than barley. Thus 60 to 80 bushels of oats per acre is a not uncommon crop, while 20 to 30 bushels of barley is a first rate average yield. We cannot see how the production of 100 bushels of oats should impoverish the soil any more than the production of 100 bushels of barley. Don't sow clover with oats if you can possibly avoid it. The oats grow so thick at the bottom that the clover seldom does well.

Peas.—On all wheat farms, well established theory commands us to sow several acres with peas. Except clover and turnips, no crop removes so little of the substance specially required for the production of wheat as peas. We told a friend this last year, and induced him to sow eight acres of peas—four acres Scotch grey, and four acres the common white pea. He had a first rate crop—twenty-five to thirty bushels per acre. They were harvested in fine order. Our friend was pleased with his "experiment," and began to think that we did know a little about practical farming, even though we talked about phosphate of lime and ammonia, and edited a paper. The peas were threshed in February, and alas for our scientific credit, nearly every pea was destroyed by bugs. But we will not give up our theory yet. It will pay to sow peas if they are good for nothing but to plow under for manure for wheat. But they are. The bug damages them but little till November or December, and ere this they may be all fed out to hogs, producing at least as much pork as the same quantity of corn, and leaving a large quantity of manure that is *far superior* to that made from corn, while the peas have been produced at comparatively no injury to the soil. Some farmers who sowed peas last year as late as the last of May, obtained good crops; yet the earlier you sow them after getting in barley and oats, the better. They need to be sown early in order to be off the land in season for sowing wheat in the fall. Two bushels per acre sown broadcast is the common way. It is far better to *drill* them in rows twelve inches apart and hoe them. The increase of the crop will pay the extra expense, while the land is left as clean as if it had been summer fallowed.

Clover.—On wheat, clover seed is often sown on the snow and does very well. We like to sow about twelve pounds per acre on wheat, as soon as the land will do to roll. The rolling not only covers the seed, but is of great advantage to the wheat. On heavy wheat soil we prefer to harrow in the clover seed. The benefit to the wheat will astonish all who who have never tried harrowing their wheat in the spring. You cannot sow too many acres with clover. We admit the direct profit is small, but the indirect gain is very considerable. At least one-fourth of the arable land should be seeded with clover each year.

Carrots.—The value of carrots as an auxilliary food for horses and milch cows is very great. No crop that we know of pays so well in this neighborhood. No farmer should be without them. For the best method of cultivation see Mr. E. S. HAYWARD'S valuable

communincation page 116. We would add that good Peruvian guano, sown broadcast, at the rate of 300 lbs., per acre, will be found a valuable and economic manure for this crop. One great advantage in using guano for the carrot crop is the absence of weeds. An advantage which all who have grown carrots will readily appreciate.

Potatoes.—The cause of and remedy for the potato disease are yet to be discovered. We are at this moment as much in the dark respecting it as ever. Early planting on a well *under-drained*, light, sandy loam, using potatoes obtained from seedling, or as recent a variety as can be readily obtained, appear to be the best means of obtaining sound palatable potatoes.

COWS AND CALVES.

In some districts it may be best economy to cut the throats of calves as soon as they are born, the milk being more valuable converted into cheese and butter than into veal. Such however is not the case when veal sells as it does here, at from five to eight cents per pound, unless fresh butter commands an unusually high price. The relative prices of the veal and butter determine the advantage of one or the other of the courses, and any intelligent farmer can easily calculate which is best economy for him.

In fatting calves for the butcher, they should be suckled regularly, have as much milk as they can take, after they are ten days old; they should be *tied up* in a dark, clean stable, and have a little fresh, clean straw given them every day. Much depends on their being kept clean and quiet. If they are kept clean they will not be troubled with lice. If they should be, give them a little sulphur, it will both purify the blood and rid them of the lice. In suckling them, let the strap remain round their necks and take them away from the cow as soon as they have had their fill, and *do not let them run about*. The rate of increase of a calf depends a good deal on the breed, and on the food of the mother; when a calf is more than six weeks old it seldom gets as much milk as it would take, unless the cow be very well kept. As a general thing, therefore, it is not profitable to keep fatting calves after they are six weeks old.

For rearing calves, of course, a different treatment is necessary. You must have an eye to *health and the development of muscle*, and not, as in the other case, to the accumulation of fat. They should be allowed more light and exercise. If fed by hand, after the first two or three weeks a little fresh skim milk and linseed tea might economically be substituted for a part of the fresh milk. A dairyman will be paid for a little extra feed and care to his cows in the spring. It often happens that cows are very costive a week or two preceding and following parturition. A feed of *mangel wurtzel*, or two pounds of oil-cake per day, will be found of great advantage in such a case. The increase of milk will pay for the oil-cake, while the increased health and strength of the cow will be pure gain and will tell well in the milk pail during summer.

We need scarcely say that it is very important that a cow be *milked clean* at all times, but especially immediately after calving. As soon as the cow has calved, we like to take all the milk out of the udder we can get, previous to letting the calf suck, and if the udder gets hard or is inflamed, as is often the case, *rub it well* with cold soft water or buttermilk, and take out the milk before the calf is to suck. The calf will then draw it clear and bunt it well, speedily effecting a cure. An eminent writer has said, "For my part I never see a *man* milking a cow without being impressed with the idea that he is usurping an office which does not befit him." Certainly there are few men that are fit to milk, or have anything at all to do with a cow. We have known cows that would not suffer a man to milk them without their legs were tied, yet they would be as quiet as a lamb while a woman with her soft hands, kind words, and pacifying manners, performed the operation. However unruly and ugly a cow may be, never beat or kick her; harsh treatment only makes the temper worse, while kindness will tame a tartar.

BRITISH AND AMERICAN AGRICULTURE.

(*Continued from Page* 82.)

B. You promised to give me any information I might desire on under-draining. From all I can learn on the subject, it appears to me there can be but little doubt that it will amply pay to under-drain, even though it does cost $30 per acre. Mr. JOHNSTON, of Seneca county, says the increased yield on the drained land in two years pays the entire cost of the drains. I intend to underdrain a few acres, this spring and summer, on the clover lot that I shall summer fallow for wheat. It is good, strong, heavy soil, and though it brings but little at present, I think by under-draining it may be made to produce very heavy wheat crops. I intend cutting a ditch three feet deep through the low land in the lot adjoining it, and shall therefore have a good discharge for the water.

A. I should cut the ditch at least five feet deep. In all our attempts at draining we miss it in nothing so much as cutting shallow ditches. If we have a quantity of low land to drain, we cut a ditch two feet deep, and think forsooth, that that will be sufficient to drain perfectly all the land within a hundred rods of it. It will do no such thing. It may drain the land a little better than if there was no ditch at all, and the water was allowed to find the lowest land, and so pass off naturally; but as for its draining the land perfectly, there cannot be a greater mistake. What is wanted is not *surface*-draining, but under-draining; or, so to speak, sub-soil draining. We want the land dry three feet deep. A ditch two feet deep carries off a good deal of the surface water, especially if furrows from the adjoining lands are run into it; but at the same time the soil six or eight inches deep is as full of water as it will hold, and needs under-draining just as much as ever. Cut the ditch you speak of five feet deep, and you will then and not till then, have accomplished the first step in under-draining your farm. In England I do not recollect a single farm, except those resting on chalk, on which there was not ditches, or, as they call them, water courses, some five or six feet deep. These are cleansed at least once a year, and kept free from all impediments, for they have found by experience that it is impossible to drain land so long as there is stagnant water in the open ditches.

B. Enough; I will do as you say. So, having cut the ditch five feet deep, what shall I do next?

A. I should cut a main drain some four feet deep from the ditch right along the lowest part of the field to be drained. This main drain should be laid with large tile, say four inches in diameter. I should then cut drains from this main drain, up and down, or lengthwise of the natural slope of the land. In the field you mention, I would not have them further apart than forty feet. The deeper the drains, within certain limits, the further apart you may make them. It is important that the drain may be made with a gradual fall, and not have some places deeper than others, for though if the mouth of the drain be lower than the summit, the water will run off, yet it is found by experience that if in any part of the drain the tiles are full of water, the land in the immediate neighborhood is not drained at all. I had this fact pointed out to me several times while in England. If the drains are made in the spring or fall, there will be plenty of water in the drain at the time of throwing out the last inch or two of soil, so that nothing is easier than to make the drain so that the water will just run from you, and will not lie in any place.

B. What is the cost of digging these drains, say three feet deep? I have some thoughts of letting the job.

A. In England, the average price paid per rod for digging a drain, laying the tile, and filling in, all complete, is *eight cents per rod.* But as we pay our help just twice as much per day as do English farmers, it will probably cost you at least sixteen cents per rod, exclusive of tile.

B. Which kind of tile do you prefer, the round pipe or the horse-shoe tile?

A. In England there is much difference of opinion on this subject. The "new lights," as they are derisively called, think and prove that the 1¼ inch pipe is just as good as the horse-shoe tile, while they cost much less, and the drains from being narrowed are dug with much less labor. The old farmers, however, are slow coaches; they stick, with a pertinacity truly refreshing in these days of change, to the good old horse-shoe tiles, laid, not lengthwise of the fall, but across it. They maintain, in spite of theory and demonstration, that this is the best method of draining. They certainly, many of them, drain land well in this way; but I think the pipes altogether the best, considering their relative cost.

B. I see accounts in some of the papers of a new machine that cuts the drains and deposits the pipe at the proper depth without removing any of the soil.

A. Yes; I saw the machine at work when in England. It did the work well, and is certainly ingenious; but I doubt if it will come into general use. You understand the principle of the machine. A borer, to which is attached the drain pipes linked together, is drawn at the required depth through the soil, dragging the pipes after it in a string. Any one can see that when the string of pipes is long, great force is required to draw them through the soil. I was surprised that it worked so well as it did.

B. They have a stationary horse-power at one end of the field, and by this means two horses easily draw the apparatus slowly through the soil. I hope it will answer, any how. It would be a glorious thing for this country, where labor is so high, if some cheap means of under-draining could be discovered. I think if we had under-drained as much land here as they have in England, we should ere this have had a machine to dig our drains by horse-power. I see no real difficulties in the way.

A. Cheap labor is a great curse to a country. If wages had been as high in England as they are here, I have no doubt, with you, that they would have had many more labor-saving machines than they have. But a brighter day is dawning on the land of our forefathers; the price of labor is gradually rising while the prices of necessaries have been greatly reduced. Free trade has mortally wounded the landed aristocratic party. State Church, and the law of primogeniture, will in a few years be done away with; the great estates will be divided up, and a new order of things adopted founded on just principles.

AGRICULTURE IN CALIFORNIA.—The following extracts from a letter of one of our California correspondents, a Western New Yorker, will be read with interest. Great improvements in agriculture are rapidly progressing. There is a great demand for agricultural reading. Mr. SANFORD alone takes *one hundred* copies of the *Farmer*. We have large lists in several other places in California and Oregon. All our correspondents speak highly of the agricultural capabilities of the soil, and of the prospects of acquiring wealth by farming.

"Since I last addressed you the weather has been exceedingly fine. I notice our wild strawberry is in bloom, and the blossom buds of the peach have begun to unfold their petals. The verdant hill sides seem to smile with great beauty. Soon they will be bedecked with the loveliest of flowers.

"As soon as farmers can obtain good titles to their lands, you will hear of improvements in farming to an extent that will astonish the agriculturists of the east.

"Messrs CLARK and CURTIS, of Solano Co., have furnished me with a brief statement of their farming the past season—this being their commencement:

"They own 40,000 acres of land, and broke 1700 acres, requiring four yoke of oxen to the plow. They sowed 1000 acres to barley and oats, which crops yielded an average of 40 bushels to the acre; 100 acres were sown to wheat, yielding only 20 bushels to the acre; and seed being 12½ cts. per lb., 500 acres were not sown. They cut and pressed 1700 tons of (wild oats) hay. They have a stock of 500 horses and 1000 cattle, and are investing largely in swine. They commenced sowing wheat the 25th January. They sowed barley all the month of January, and oats all of February. The crops were all sowed from one to two months too late, and therefore only half the usual crop was harvested.

"Quite unlike the lands of old Wayne and Monroe, the first crop of cereals grown on high lands are not a fair test, and never equal to the second and third.

"They are selling their hay at $50 to $80 per ton—average, $65; barley at 3½, oats at 4½, and wheat at 10 cts. per lb.; and at said prices, these crops will amount to $185,620. The increase of stock, and value of vegetables grown, will swell the amount to $200,000. They employ twenty men on the average, at $60 per month including board. They purchased their farm, in December, 1851, for $10,000, and could now sell it for $20,000." J. L. SANFORD.—*San Francisco, Cal., Feb.* 1.

STABLE.—I think of building a stable in the following manner: I will have an addition on the side of the barn at one end of the barn floor, the floor of which I will have elevated about six feet above the old sill, the cattle to enter by an inclined plain under or at one side. My floor plank I will have come to within about a foot of the back sill, having a plank running the other way so fixed that it may be turned up, making it very easy to clean the stable and house the manure, thus saving it all without the expense of tanks. D. A. R.—*Attica, N. Y.*

Sandy Soils.—I was pleased with your remarks "on the proper management of sandy soils." In fact the editorial matter of the *Genesee Farmer* has of late united theory with practice so ably and well advisedly with the best agricultural improvements, and scientific discoveries of this progressive age, that I have felt "Othello's occupation gone;" hence any contribution from my pen would only be a trespass on your columns. But apropos of sandy *versus* clay loam. For many years I had been in the habit of growing Indian corn and vegetables on a heavy clay loam; being tired of the universal cry, that a sandy loam was the soil for a garden. I once bought an acre of dry, sandy loam, drained by a quick descent to the south. As its nitrogen had been exhausted by cropping, I applied to it about thirty two-horse loads of strong stable manure, with nearly the same weight of leached ashes. Vegetation came forward earlier and progressed faster through the month of June and July, than on the clay loam; but in a drouth in August, vegetation came to a dead stand—the corn leaves curled, and the tops of the ruta bagas dried and withered; stirring the soil between the rows was of no other benefit than killing the weeds, no moisture by capillary attraction, no union of the oxygen of the air with the hydrogen in the manured soil took place to form water; the corn leaves did not expand in the dews of evening, the ears did not fill to the end of the cob; the crop was short. On the other hand I never had a greater yield from my old clay garden. Slow to advance in the early part of the season, vegetation seemed to luxuriate in the drouth of August; the corn leaves curled in the middle of the day, but in the dewy morn they were the open ready conductors of the rich, watery treasure to their roots; stirring the alluminous surface of the soil let in atmospheric influence to the forming of artificial moisture. The carrots and beets grew apace, the latter far outstripping in size the ruta bagas on the sandy lot.

The next year I tried the same experiment over, giving to the sandy lot twice as much stable manure to the square rod, as to the clay loam. But the final result was the same; the organic matter in the sandy loom seemed to be exhausted and gone, while the clay loam needed manure only to ameliorate its close mechanical structure.

But I have since got a new *wrinkle* in the management of sandy soils. In that desert waste of sand, exhausted of every element inorganic and combustible, two miles north of Providence, R. I., is a farm now an oasis in the desert. Some years ago a rich merchant of New Bedford, who owned it, employed an experienced farmer friend to bring up this farm to the highest point of fertility. He began by applying 250 bushels of leached ashes to the acre; this alone enabled him to get a crop of millet and clover. This he plowed into the soil to supply the indispensable nitrogen. He now built stables for forty milch cows, employed Irishmen to dig muck and peat from a swamp, which when dried was placed in the cow stalls for bedding. These cows were soiled, early in the season with green rye, hen clover, then Indian corn, sown in drills for fodder only. All the saturated peat and manure was saved intact under the sheds which flanked the stables. I never saw better crops on any soil, potatoes perhaps excepted. This is a case in point to confirm the truth of your theory in favor of dried peat and swamp muck composted with animal excreta, as the best amendment for loose sandy soils. The leached ashes were only necessary from the complete exhaustion of inorganic matter in the soil; the after process of manuring with peat, &c., will not fail to supply mineral as well as organic matter for all coming crops.

Turnip culture is undoubtedly suited to the climate of England; but on all aluminous soils in this country the crop is small, and always injured by insects; beets are a more certain crop on manured soil; blood turnip beets require little more tillage than turnips; they bear close planting, have no insect enemies, and grow to a large size. As a green crop to plow under for its nitrogen, I apprehend that no plant can compare with clover, if required as an intrinsic amendment to a hungry sandy loam.

Why is not guano an economical manure for sandy soils, if applied in small doses as the growing plants require it? The fault of a sandy soil is, its incapacity to hold organic matter until it is wanted by the growing crop; hence it strikes me that small and frequent applications, as the plants require, is the most economical mode of treating sandy soils. S. W.—*Waterloo, N. Y., March* 1853.

We once tested the above suggestion with potatoes on a black sandy soil. Three hundred pounds of Peruvian guano were sown on an acre at the time of planting, and on another acre by the side of it we sowed one hundred and fifty pounds at the time of planting, and one hundred and fifty pounds more just previous to the last hoeing. Both acres yielded good crops, (350 bushels per acre,) but there *was no difference* in favor of

either of the two modes of application. This is the only experiment on *sandy soils* we ever made in reference to this matter, and we confess it is anything but conclusive to our own mind. On heavy loams we know for certain that there is nothing gained by applying ammoniacal salts or guano in small doses at short intervals during the growing season. This has been tried repeatedly without any advantage. The economic application of guano and other ammoniacal compounds is occupying the attention of several eminent scientific men at present. We have many theories on the subject, but very little practical experience. Any of our readers who have experience, bearing on this point, will much advance the cause of agriculture by making them public.

WIRE FENCE.—As it is now the time of year when the farmers have the least to do, and the time that they read most, and form their plans for the work of the next season, perhaps it will be well to put something more before them on the subject of Wire Fencing.

What has been written on this subject, and the plans that have been submitted for its construction, have induced the building of many miles of wire fence; but the most of it has proved to be of little value to the farmer, and it is to be feared that they have about abandoned the idea of using it as common fencing material; therefore what I have to say as to the practicability of using wire to construct cheap, strong, and durable fences, is said with diffidence. Still, with your permission, I will tell my story, and give my plan; for, like a great many others in the world, I do think that my story will be instructive, and that my plan will be the best yet published for the construction of wire fences, for the farmer's use.

In the year 1850, by a combination of circumstances, it became necessary for me to build two hundred rods of fence in a short time, and as I had not made preparation for any other kind, I concluded to try wire fence. I obtained from New York a quantity of No. 10 annealed wire, and had posts made from hemlock scantling, three inches by four inches square, and six feet in length, which were nicely sharpened. Having these materials on the ground, I proceeded to draw a cord on the line where the fence was to be, which being well drawn, and straight, was to be my guide in making holes for the posts. Using an iron bar, I made holes about eighteen inches deep once in every rod throughout the whole line. The posts were then placed upright in these holes and driven with a sledge hammer until they stood just four feet out of the ground, appearing as straight and trim as a company of soldiers. Fine holes were then made through each of them with a "bit" three-eighths of an inch in diameter. These holes were six inches apart, and the upper one three inches from the top of the posts. As the fence was to confine only horses and cattle, I supposed five wires would be enough. The wires were then drawn into these holes. Whenever splicing was necessary, it was done by binding the ends to be connected like staples, hooking them together and then twisting the short legs around the long ones several times. This is the best way of splicing wires that I have tried, and if it is well done they will rarely give out at the connection.

At one end of the sections, the wires were passed through the post, and then brought around and tied strongly; at the opposite end, they were tightened by a little machine, consisting of two pieces of iron, which I will describe as well as I can without drawings. An iron roller is made four inches long, and three-fourths of an inch in diameter, having a hole large enough to admit the wire, punched through it an inch and a half from one end, and the other end squared an inch in length. To this square end is fitted a washer four inches long, an eighth of an inch thick, and an inch and a half wide, with two small nail holes punched through one end—one of them near the end, and the other two inches from it. The square mortice to receive the roller is made at the opposite end. These machines will cost one shilling each, and will last indefinitely. The manner in which the wires were stretched is as follows:—A wire passed through the post and into the roller—the washer being on—a wrench is applied, and the roller turned round until the wire is well tightened, when the washer is nailed to the post, by nails passing through the small holes.

When each wire was thus stretched and confined, I had a fence that appeared very neat and strong. Eighty rods of it enclosed a lane along which the dairy cows passed twice each day—so the fence was used. During the first year I found that this fence was a good barrier against most all my horses and cows, &c.,—which means bulls and oxen—but that some of them would not be confined by it. Some cows would get down on their knees and crawl under it, and others would put their heads between the wires, and by pressing heavily on the wire next under their necks

would break it, and so get through. It not being perfectly satisfactory, I the next spring had it all taken down, and rebuilt in a manner which made it a perfect fence against all cattle, horses, calves and sheep. And now, from this last experiment, I will give a plan for a cheap and durable fence, which in most localities, will be the cheapest that can be built equally serviceable.

The posts should be six and a half feet long, three inches by four inches square, and well sharpened, and of cedar wood; they should stand in the ground two and a half feet, and be ten feet apart. The *sections* should be twenty rods long, and the posts at the ends of them should be four inches square, and well braced by scantlings bearing against their top ends, and the bottoms of the posts next to them. The wires should be eight in number, of No. 10 annealed, and be drawn in and stretched in the manner before described. The first wire should be three inches from the tops of the posts, and all six inches apart. The last passed summer, thirty rods of fence constructed after this plan, divided a field of grain from a pasture in which a large dairy stock ranged daily, and it fulfilled its office perfectly.

With the posts and rollers and wire prepared, two men can easily build fifty rods of it in a day, and it can be taken down in one half the time. A person of ordinary ingenuity will soon learn to handle the wires, so as to facilitate the work much. The tools required after the posts are made, are an iron bar, a sledge hammer, a strong pair of pincers, a bit-stock and bit, a line, and a wrench, which is best made of a piece of strong iron about a foot in length.

Every spring the fence should be looked to, and the wires tightened, for the frosts of winter will loosen them. A little attention given promptly when it is needed, keeps such a fence in order cheaply. Among the good qualities of such a fence are these:—The space it occupies is the least that a fence can occupy; it harbors no weeds, mice, or snakes; it does not cause snow banks; the wind never breaks it down; it confines the most unruly animals; it can be put down or taken up easier than any other, and whenever by great force it is broken it can be mended in a few moments. There are many places in snowy countries, where this fence would be serviceable indeed; as, along the roadsides, to prevent the banking of snow.

Hoping that many will be induced to *try my plan*, I will leave the subject. W. R. Manley.—*Buffalo, N. Y.*

Culture of Carrots.—This important part of agriculture has been very much neglected by farmers generally. Very few know the value of a good crop of carrots till they have raised and fed them to their stock during winter, or know little of the profits of an acre till they have had the opportunity of turning a crop into money. There is no crop the farmer can raise that pays so well, or yields so much good feed for stock. The tops may all be fed to cattle at harvesting, and the roots stored in the cellar for winter use. For fat cattle they are the very best roots that can be fed. For milch cows they are almost invaluable. They keep the cows in good condition, and the milk is rich and the butter is of good color and flavor, entirely free from that disagreeable taste caused by feeding ruta bagas, turnips, &c. Horses are very fond of them and will work well when fed on carrots and keep in good flesh without any grain. Some writers say they are equal to oats for horses; I put them at half the value and make good profit raising them at that. Store hogs winter first rate on them and water alone, and will show good keeping in the spring. I feed them whole to horses and hogs, and cut them for cattle. Fat hogs will eat them when they have plenty of corn, and I think them beneficial, for the reason that hogs shut up in a close pen require something green to satisfy nature. A yellow chestnut loam well manured, say 20 to 40 loads of rotten yard manure per acre, makes a first rate soil for carrots, but they will grow on any deep rich soil, and produce well. The soil should be thoroughly pulverized with the cultivator and harrow on the top before plowing after the manure is spread. Then plow deep and follow with rakes and rake the top of the furrow and the manure, if there is any left in sight, to the bottom of the furrow, and continue in this way till the piece is prepared, which leaves the ground level and clean on the surface. Four hands will follow and rake as fast as a team will plow. The subsoil plow I think could be used to great advantage. I never have tried it, but intend doing so the coming season. The ground should be sown while moist, soon after it is fitted, in rows 12 or 14 inches apart and half an inch deep. The soil should be pressed on the seed by treading or rolling, to ensure its vegetation. If sown by hand the usual quantity of seed is four pounds per acre; if with a machine, two pounds is sufficient. The seed should be soaked in warm water forty-eight hours or more before sowing, then mix with plaster till the seed will separate. Sow as early in May as the season will allow. The ground may

be marked out with a marker made for the purpose and the seed covered with a rake. If the weather is favorable they will be up and ready for the first hoeing in about three weeks. The hoe should then be passed lightly through, between the rows to kill the weeds and help the growth of the carrots. In ten days hoe again, weed and thin, leaving one plant in a place; in two weeks hoe deep, weed and thin, leaving the plants four or five inches apart in the rows, and the work will be completed for the season. If weeds grow after the last hoeing, weed them out, for weeds and carrots cannot grow on the same ground at a good advantage. A good crop is eight or nine hundred bushels per acre; and is worth at least 1s. 6d. per bushel amounting to one hundred and fifty dollars per acre. The cost of cultivating, manure, seed, storing, and interest on land, will not vary much from fifty dollars; leaving for the nett profit the sum of one hundred dollars from one acre of land. What farmer will say that this is not good profit. Then who will not raise an acre or more. The greatest difficulty in raising a crop is bad seed, bad weather after sowing, and neglecting to thin them in the right time. The seedsman is often blamed, and unjustly too for selling bad seed, when the fact is the seed is good but badly managed by the cultivator of the crop. If the weather is very dry and dry seed sown, or if cold and wet it will be a long time in vegetating, and nine times in ten the weeds will have much the start, so you may look very close to find the poor weakly plants and perhaps only find a few scattering ones, and without further thought or investigation, the land is plowed again, and the seedsman must bear all the blame for bad weather, and bad management. I usually raise my own seed, but sometimes run out, and have bought from the Genesee Seed Store, and never had bad seed, and always had a fair crop. E. N. Hayward, *Rochester.*

Plowing in Green Crops.—I am becoming every day more satisfied that the science of farming must look "upwards;" that the air we breathe is the great fountain that sustains animal as well as vegetable life; and that the great primitive source of all the richness in our soil is from the air. Nothing is destroyed. No sooner does the animal and vegetable die, than it commences its round of change until it returns to its original elements, and is prepared to be remodeled into new animals and vegetables. Let man do his worst, and he cannot destroy one jot or tittle of substance; neither can he impoverish the earth so that skillful agriculture cannot restore. My neighbor, an intelligent man, has collected all the barn-yard manure he could buy, and has mingled with it caustic lime, and has made an immense heap which is now a perfect crater almost on fire. Think you if he could see the wheat, corn, and grass, that is continually ascending from that heap, he would continue the fire? Far from it. He can smell at a great distance, the ammonia and enriching gases, arising of course. Now, if, as I have said, we could *see* the enriching gases arise, and knew their value, the world would have been convinced long ago; for "to see is to believe."

Well, I hear you say, what a destruction. Not so; not a particle is destroyed; it floats off in the air over your farm, and any farm, ready to be brought into the harness by the skillful farmer, who has his *clover* and other ammonia-absorbing plants in his broad fields ready to catch and devour it. I hold that air above, is and has been for all time charged with all the organic properties of plants, and that it is a fountain that will never fail, ever ready to respond to the demands of science. Yet, we must of course properly cultivate the soil. I believe fully in Tull's theory. If I had the means of retaining all the ammonia and invisible nourishment for plants that is foolishly expelled from my neighbor's farm, I am satisfied that I should have the lion's share. C. W.—*Lake Grove.*

Virginia Lands.—I have received, probably, in the last few months, one thousand letters, mostly from your State, making inquiries about lands in Eastern Virginia, but mostly making their requirements such that an answer would be useless. A farm of 150 or 200 acres near a village, well apportioned into mowing, pasturing, and woodlands, is not easily found for $4 or $5 per acre, for the following reasons: first, those villages are very rare; second, not more than one farmer in a hundred makes any point of cutting hay, and as little for pasturage. Cattle get some coarse food two or three months; sheep none, yet do exceedingly well. Good ewes will probably net $2.50 to $3.50 per year, by wool and increase.

Any one that expects to see lands looking anything like the lands in Western New York, will surely be disappointed and had better stay at home or go West. As to crops, our very poorest, worn-out fields, with 200 lbs. of guano, costing say 2¼ cents per lb., will average 12 bushels, at least, of wheat per acre and generally a stand of clover, or 15 to 25 bushels of corn. Very little attention

is paid to fruits, but they grow well enough with a little attention. Wild fruits are in profusion.

Lands near public works, are rising in value at least 10 per cent. per annum, yet many good locations can be bought on railroads, or near them, 10 to 50 miles from good markets, for $4 to $10 per acre. The places advertised some months since in the *Genesee Farmer* are sold, with the exception of one of 390 acres. The present cash price is $2000, until the 1st March; afterwards, not in the market for anything like that sum. Taxes, State and County, 20 cts. on each $100 valuation.

As to the health of the country, from tide water up there is no healthier region; on the rivers and at tide water, it is rather billious a few months in the year.

The prices of produce at present are, wheat, white, $1.15; red, 80 c. a $1.05; corn, 65 a 70 c.; oats, $1 a $1.50 per cwt. in sheaf; hay, $1 a $1.50 per cwt.; butter, 20 a 31 c.; cheese, 10 a 14 c.; pork, $8 per 100 lbs.; eggs, chickens, turkeys, &c., out of sight. S. CLARKE, JR.—*Proctor's Creek, Va.*

THE VALUE OF A GARDEN.—Though not a farmer by profession, yet I have taken your paper since 1845, and have read it with much interest, and, I trust, profit. I have but three fourths of an acre. My house, barn, fruit trees, and ornamental shrubbery, occupy one-fourth of an acre, leaving me one-half of an acre for a garden. My fruit trees are just coming into bearing condition, and last fall I gathered, as their first fruits, seven bushels of excellent winter apples, besides an encouraging supply of other luxuries. My garden, previous to my occupying it, four years since, was impoverished. But it has gradually become more fertile, and last season yielded me $100 worth of vegetables. From 20 rows I had 60 bu. of potatoes; from 8 rows I had 35 bu. of carrots; and cabbages, beets, turnips, ruta bagas, onions, corn, beans, tomatoes, and all the variety of a kitchen garden about in proportion. But for whatever of taste displayed, or of comfort enjoyed in my little home, I am indebted much to the *Genesee Farmer*. From this I have learned to manage my hot-bed, and cultivate my yard and garden, and, I think, with some degree of success. The exercise thus obtained has given me health and cheerfulness, and I have been enabled to keep up with the spirit of the times and set an example to the people with which I am surrounded and to whom I minister. E. O. WARD.—*Dundaff, Pa.*

SHANGHAE FOWLS.—I bought last summer a pair of Shanghae chickens for $5; my neighbors called me a fool, but I bided my time. In October my pullet began to lay very large eggs, and laid all winter. I kept no account of them until the 15th day of January; the egg laid on that day I marked No. 1, and every egg laid afterwards I marked with its number, until September; I then let the hen set on some of her own eggs. Up to that time she had laid, from January 15th, 113 eggs. Had I kept the account from her first laying, in October, I have no doubt the round figure would have been 150. I have realized $18 from her, and have stock that I would not take $25 for. Of course I set her eggs under other hens. She weighed, when she first began to lay, 5¼ lbs., and the stag (or rooster) 7¼ lbs. JNO. HOWE.—*Darien, N. Y.*

ILLINOIS FARMING.—The following extracts from a valuable communication on the "future prospects of Illinois," will be read with interest:

"All kinds of farm produce now sell well throughout the State. Wood for fuel is tolerably plenty by hauling eight or ten miles. Horses, cattle, and mules are high; everything is in a prosperous condition. Good water is everywhere easily obtained; we seldom have to dig more than sixteen feet. Cattle do well on the prairies from the middle of April to the end of October. All kinds of grass seeds do well on our prairie soil. Osage Orange is coming into general use; it does well and makes a good hedge in four or five years. Black locust grows very fast on our upland prairies, but does not answer on the low land. Walnut grows thrifty and soon makes good timber. Apple and other fruit trees grow with astonishing rapidity, bearing at from four to seven years of age. Our soil is very rich; it is very muddy in wet weather, but drys rapidly with the sun and wind. The past winter has been very disagreeable and wet. Our oldest inhabitants never remember so rainy and muddy a winter. Our prospects for large crops are good, though the wheat has been somewhat injured. Fruit is not hurt; we shall have fine crops. We have very good orchards in this country, as also some very fine hogs, horses, cattle, mules, and sheep. The land is good for sheep; wolves seldom trouble us, but dogs are a terrible scourge. D. J. CONNELY.—*Paris, Edgar County, Ill.*

Hoosier Farming.—I think we have some of the finest exemplifications of the "skinning system" that is practiced in modern times. Many of the original settlers (being mostly from North Carolina) having cropped with corn after corn, till the yield was but little greater than the seed, and being unable to live on their exhausted farms any longer, were compelled to sell out at small profits and move west, there to run another round of "skinning" and exhausting the soil. But a great change is now taking place; the "skinning system" is gradually giving way to the light of science. We have a very valuable agricultural journal—the *Indiana Farmer*—published at Richmond, and an agricultural society in this county in a very healthy condition. We have a number of those who take and read the papers; who use the subsoil plow in connection with barn yard manure, draining, &c., producing from twenty-five thirty-five bushels of wheat per acre, and from seventy-five to one hundred bushels of corn. Plowing from eight to ten inches deep is now very common, which seldom fails of producing double the amount raised by the three-inch style of farming, while hundreds of others are watching these results and, like King Agrippa, are "almost persuaded" to be (book) farmers. Our State is a great corn-growing State. We have upwards of five million acres of land improved in farms. The annual production of Indian corn is about fifty-two million bushels, which I think is taxing the ground rather too heavy.

G. W. Gilbert informs us, on page 52 of the present volume of the *Farmer*, of some extra hogs, ten in number, all raised by *mechanics*, but fails to give the most important part, *how they were raised*, and says: "Now farmers beat this!" I would inform him that I raised and sold, the past season, twenty-seven hogs; their aggregate weight was 7636 lbs. net. They were slaughtered at the age of about *fifteen months;* they had no extra attention, running on pasture through the summer season, equal parts of timothy and clover, with a small quantity of corn each day.

I think it takes about five pounds of corn to produce one of pork, and I think it would be good economy to give a hog all it would eat. I think we have not paid sufficient attention to raising hogs. James H. Arnett.—*Economy, Wayne Co., Ind.*

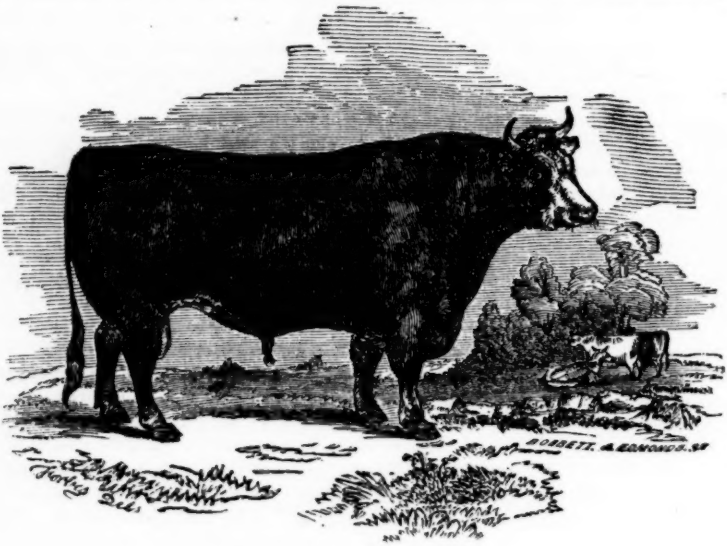
Fatting Calves—Potato Culture.—If I beat my neighbors in any branch of agriculture, perhaps it is in fatting calves. I do not allow them to run about and play at all. Perhaps a very little exercise would be of benefit if they did not generally get so crazy for a frolic, and neglect their food to have a spree. If allowed to run about much, they fat very slow and the meat is tough. I have a manure cellar with room enough for my cow and calf pens; and being nearly dark, and pretty uniform in temperature, it is a first rate place to fat calves. If I let them suck at seven in the morning, I want to do it as early as six at night, and then they will be hungriest at night. I make the pen so narrow they can but just turn around in it, and have the door or barrel or whatever I fasten with, crowded in so far that the calves will not play, and they will fat much faster than any other animal I know of. I put in a little clean straw every day.

My most profitable crop for a few years has been potatoes. I like to break up some dry, gravelly ground in September or before, and at a dry time harrow, and plow and harrow again before winter, and as early as I can in the spring, plow and harrow again, and run furrows three inches deep and four feet apart, and as soon as I can plant and not have them freeze, drop pink eyes two feet apart in the furrow and cover deep, and when they begin to come up, harrow over the whole with a large harrow, straddling the row with the team, and shortening the teeth if it tears up many. We don't usually tear up more than ten or fifteen to an acre. When I hoe I use the cultivator, and do not make the hills high, or they dry up badly. N. N.—*Hannibal.*

Needle in the Diaphragm of a Cow.—My brother killed a cow last fall and found a *darning needle* in the diaphragm, near the heart. It was bent and discolored, and from marks on the stomach and elsewhere, it seemed to have made journeys through her internal regions with a "perfect looseness." The cow's health had been vaccillating during two or three previous seasons; but whether her being "armed and equipped," *not* "as the law directs," had any sensible influence upon her physical condition, deponent knoweth not. Abel G. Emery.—*Lincoln, Morrow Co., Ohio.*

HEREFORD CATTLE.

THE Herefords, as grazers, are unequalled. They are larger than the Devon, mature quite as early, and their beef is finely grained and mottled. For working oxen, there is none better. They are more powerful than the Devons, though perhaps not quite so active. They are better milkers than the improved Short-horn, though, we think, not quite equal to the Devon—certainly not equal, in this respect, to the Ayrshire. We are not aware that there has ever been any conclusive or satisfactory practical test of the relative feeding qualities of the Durham and Hereford. It is, however, the general opinion that the Durham will lay on fat more rapidly than the Hereford or any other breed.



HEREFORD BULL TROMP.

THE PROPERTY OF ALLEN AYRAULT, GENESEO, N. Y., WINNER OF THE FIRST PRIZE, $25, AT THE NEW YORK STATE FAIR, ROCHESTER, N. Y.

MARSHALL gives the following description: "The countenance pleasant, cheerful, open; the forehead broad; eye full and lively; horns bright, taper, and spreading; head small; chap lean; neck long and tapering; chest deep; bosom broad, and projecting forward; shoulder-bone thin, flat, no way protuberant in bone but full and mellow in flesh; chest full; loin broad; hips standing wide, and level with the chine; quarters long, and wide at the neck; rump even with the level of the back, and not drooping, nor standing high and sharp above the quarters; tail slender, and neatly haired; barrel round and roomy; the carcass throughout deep and well spread; ribs broad, standing flat and close on the outer surface, forming a smooth, even barrel, the hindmost large and full of length; round-bone small, snug, and not prominent; thigh clean, and regularly tapering; legs upright and short; bone below the knee and hock small; feet of middle size; flank large; flesh everywhere mellow, soft, and yielding pleasantly to the touch, especially on the chine, the shoulder, and the ribs; hide mellow, supple, of a middle thickness, and loose on the neck and huckle; coat neatly haired, bright and silky; color a middle red, with a bald face characteristic of the true Herefordshire breed."

Horticultural Department.

CONDUCTED BY P. BARRY.

HEADING IN TREES AT THE TIME OF TRANSPLANTING.

Perhaps there is nothing connected with transplanting trees more important to the success of the operation than pruning the tops, or, as it is usually termed, "heading them in." We are very sure, that notwithstanding all that has been written upon the subject within a few years, thousands of trees annually die outright from the want of a judicious pruning when transplanted, and thousands of others grow so feebly that they too might as well have died. Some people are ignorant of the necessity of such an operation, others are too busy when their trees are planted, and they have no time to do it. Others again, are aware that it has been recommended, but they are loth to spoil the trees by depriving them of their branches, or they are not much accustomed to handle the pruning knife, and are afraid if they should attempt to prune they would do more harm than good. We have heard all these excuses made, and many more, time and again.

If a tree could be removed from its place in the nursery to its permanent situation with every root and fibre entire and uninjured either by digging, packing, carriage or exposure, there would be comparatively little necessity for heading in, because the natural balance that existed between the roots and branches would not be destroyed; but how seldom is it that such trees are found in this state! Rarely ever, as we know by ample experience. The transplanting season is *always* a hurried one with the nurseryman; his customers are pressing him for the trees, the season is bounding forward, the buds are swelling rapidly, or winter is threatening an embargo, and the work must be done. Raw, untrained laborers, who know just as much about roots or their importance as they do about Euclid, are turned in to dig and pull; and dig and pull they do with a vengeance. The roots are cut and bruised and mangled until they look as though they had been taken out with a grub hoe. This is not always the case, we admit; there are careful nurserymen who take up their trees as though they knew what trees were, and intended they should live and prosper, but even at best there are injuries inflicted that break up the nice harmony that existed between the different parts of the tree, and for this a remedy must be applied.

Now the theory on which the practice of heading in rests, is that the roots are the principal nourishers or feeding organs of the tree, and must be adequate to provide a sufficient supply for the buds or leaves, which are the consumers. If the roots be so injured as to be unable to fulfil their ordinary functions while the demand of buds and leaves continues the same, the tree will not only be unable to grow, but will in a very short time become exhausted and *die*. Hence the necessity of reducing the number of buds or leaves, and thus cutting off a portion of the demand upon the roots. By this heading in we economise the nutriment stored up within the tree, and it is then sufficient to sustain the process of vegetation until the tree has formed new roots to collect nourishment and is once more at home. It is sometimes objected to heading in at the time of transplanting, because the tree is not in a condition to throw up vigorous shoots that will make a new and handsome head; and it is recommended to defer the heading in until the second year, when the tree is well rooted and will have sufficient force to make vigorous and thrifty shoots. This would do very well we admit, and we prefer it when the tree has not a large head and the roots are all safe and sound; but as general thing, such a system would be like "locking the stable door after the horse was stolen." The heading in must always be proportioned to the condition of the roots

and the amount of top. If the roots are much dried and injured, it may be necessary to cut in every branch to within two or three buds of the base. If the tree be young and all perfect, a slight pruning only is necessary. Peach trees particularly require close heading always. In fact it is well to cut in every shoot to a bud or two at the base.

In the March number of *Hovey's Magazine*, we find this subject touched upon in a report of some discussions by the members of the Massachusetts Hort. Society:

"The President. Some remarks have been called for in regard to heading in pear trees. So far as his experience was concerned, he thought it best to head in. Trees newly set should be headed in, say one-half to two-thirds the previous year's growth. Trees set out in the streets of Paris, he was told, were headed in to nearly bare poles."

"Mr. Breck said he had remarked that trees headed in had done better than those not pruned. He had noticed this in street trees, where they had been pruned to bear poles and had done well. Pear trees might do better in light soil, such as Mr. French had alluded to at Plymouth, than in a heavier one; but he thought some persons might make a mistake, if they should plant their trees in any sandy soil without knowing of what it is composed. It would not answer in all light soils."

"Mr. C. M. Hovey objected to the general system of heading in trees indiscriminately, as was a common practice, without regard to the state of the roots and other conditions of the tree, and should take occasion to enlarge upon the subject, if gentlemen contended that the practice should apply to all transplanted trees.

"In the discussions now before the members, he presumed we were assuming that we were talking to practical men, or, at least, to gentlemen who had some information upon the subject; and that we also assumed that the system he or any one else advocated, was that which should be pursued with a healthy, properly grown tree. This being understood, he was entirely opposed to heading in newly transplanted trees. He had not done so for many years, and, after careful observation, he had become convinced that trees removed and not headed in the *same year*, had done far better than those that were.

"His practice was to transplant trees in the fall, if possible; but if not then, in spring, rather than lose a year. Such trees were not shortened in, unless merely some straggling branch, to shape the tree a little. The following year, however, they were cut in rather short. This gave the young shoots a vigorous start, and the trees formed fine heads, much better than those pruned in the first year.

"If, however, trees had been imported, or out of the ground many weeks, these, of course, he would head in to keep up the equilibrium between the roots and branches; the former evidently being more or less injured by drouth, exposure, decay, or other causes, not to mention the loss of many of them by removal, which would materially change their natural condition. He therefore, as a *general rule*, always advised shortening in *one-third* or *one-half* of the previous year's wood, for the reason, as a *general thing*, trees were badly cut or mangled in removal and transportation. He condemned the plan of heading in forest trees to bare poles, as generally practised."

"Mr. Cabot said he agreed with Mr. Hovey, that young trees taken from the nursery did not perhaps require cutting in so severely as older ones. In the removal of large trees, he thought it was necessary to shorten in, to keep up the equilibrium between the branches and the roots. He took up two very large pear trees last year, and did not shorten them in; but he found they did poorly, —one died, the other did pretty well. His experience was that large trees required considerable heading in."

"Mr. Walker. Some remarks had been made relative to heading in forest trees; he should confine his to the pear. He had removed many trees; he had taken them up in April or May and cut them in,—and had taken up others and not headed them in; those not pruned were much the best trees at the end of the second year. His opinion was that a good tree *should not* be pruned the *first* year. It then had time to recover itself; and properly headed in the second spring, it made vigorous branches and a good top. Imported trees he thought it would be best to prune when set out. He quite agreed with Mr. Hovey; his whole experience quite concurred with his."

NORTH WESTERN FRUIT GROWER'S ASSOCIATION.

In the February number, page 92, we gave some account of the proceedings of this association. We now proceed to notice the discussion on qualities of fruits:

Discussion on Apples.—The *Autumn Strawberry* was recommended for further trial in the west.

"Cyrus Bryant has fruited it several years; a fair grower, and abundant bearer, alternate years—ripe about first of September; juicy, with a very slight astringency.

Mr. PHŒNIX has fruited it several years, esteems it highly—very productive—would plant it in a collection of six varieties in his locality.

Mr. MCWHORTER—Its flavor is exceedingly delicate, of tender texture. Esteems it an excellent fruit. Passed as recommended by Committee."

With us the *Autumn Strawberry* is a crisp, juicy, high flavored fruit, uniformly fine. We think it bids fair to be worthy of very general culture. We are glad to hear such favorable reports of it from the west.

Sweet Nonsuch, (local name.)—From the general tenor of remarks made by several cultivators, this seems to be a hardy, vigorous, productive, sweet baking apple.

Monarch.—We received this apple several years ago from Mr. J. A. LAZELL, of Columbus, Ohio, and it has borne regular abundant crops of large, very beautiful and and "good" fruit. The following remarks were made concerning it:

"Dr. PENNINGTON has fruited it several years; tree a rapid grower, good, though not a prolific bearer, has been, with him, profitable—knows no early apple of its season superior—would recommend to bud or stock-graft, tender root-grafted.

Mr. BELLANGEE received it from Ohio as *Monarch Sweet*. It is of an agreeable sub-acid flavor, has ripened last of August, in use through September. A beautiful fruit, sells readily at good prices in market.

Mr. AVERY considers it far superior to *Maiden's Blush*.

Mr. S. M. COE has proved it an early bearer."

Fall Pippin.—We have been anxious to know how this famous apple would adapt itself to the soil and climate of the west. The following remarks give unfavorable indications:

"PRESIDENT had it bear plentifully; soil with considerable clay.

Mr. FINLEY'S experience ditto; soil alluvial.

CYRUS BRYANT—Trees planted in 1837, have never borne a dozen apples in a season; soil, clay loam; hopes *Hawley* may supersede it.

Mr. MCWHORTER has seen a few trees bearing well.

Mr. WILLIAMS—Where stock budded or grafted, has seen it bear well, has several trees root-grafted, 12 years old, have never borne but little. Believes the different modes of propagation a subject of great importance to fruit cultivators in the West.

Mr. LOOMIS—It bears profusely in Northern Indiana, generally root-grafted; soil, oak opening.

Mr. AVERY has five trees planted in 1840; had first good crop this year, say five bushels in all; soil good prairie. Would value one tree of *Rambo* or *Rawles' Janet* worth seven of *Fall Pippin Belmont* also superior, and *Fall Wine* is generally preferred to it."

The difference between the success of Mr. LOOMIS, in Indiana, and that of the other gentleman in Illinois, is very striking and worth further inquiry.

Red Gilliflower.—Recommended for further trial in the west.

Yellow Bellflower.—Recommended for general cultivation, by a vote of 12 to 11, (other members not voting,) "to be budded or stock-grafted," instead of root-grafted; the general impression being that it does not succeed well root-grafted.

Dominie.—All spoke well of its quality and productiveness, and it was passed as "very good for general cultivation."

Rawles' Janet.—Generally considered productive, and varying in quality from good to *very* good according to locality, exposure, &c. We apprehend that like our *Spy*, it needs a full exposure to the sun to bring out its excellence. Nothing said of the best mode of propagating it.

Winesap.—Only alluded to by two speakers, and they pronounce it productive and good.

Willow Twig.—Passed without discussion. This is one of the best long keepers of the west.

Fallawater.—Known also in the west as *Mountain Pippin, Tulpehocken* and *Pound* apple. Highly recommended by three speakers, and passed as good for general cultivation.

White Winter Pearmain.—Unanimously pronounced valuable and productive.—Passed as best and recommended for general cultivation.

Belmont.—This is a beautiful and excellent fruit, but quite variable. We find it succeeds well in Western New York. It is particularly so in Northern Ohio, and in certain soils and localities in Illinois. The fruit is somewhat liable to drop prematurely. Mr. ELLIOT advises to cultivate it on dry, elevated soils, and to gather early. Recommended for limited cultivation.

Vandervere.—Pronounced variable. Mr. MCWHORTER has seen it bear full crops on a clay soil,—"hickory barrens," similar to the "oak openings" of Michigan. Mr. LOOMIS of Northern Indiana, has had it do well in all respects on a clay loam. It needs good culture. Recommended for limited culture.

Talman Sweet.—"Recommended for general cultivation, for baking and stock."

Detroit Red.—Passed as not sufficiently known, being confounded with *Black Pippin* and *Black* apple.

R. I. Greening.—From the testimony of eight or nine speakers the cultivation of this famous fruit has not been successful so far in the west, and more especially when root-grafted. One speaker (Mr. BRAYTON,) goes so far as to doubt whether it would ever bear when so worked. This is very remarkable. The finest trees of this sort, and indeed the best orchards in Western New York—and the world could not produce more healthy or productive trees,—are all root-grafted; but we intend to say something on this particular point soon. "Passed as not sufficiently known to be recommended." This strikes us as a strange decision after several members having expressed decided opinions based upon the experience of 15 or 16 years cultivation.

Roxbury Russet.—The experience of Illinois cultivators is unfavorable; in some cases not keeping well, in others the fruit spongy. Blossom buds injured, and frequently injured in the winter near the ground surface. Considered generally as being much better budded than root-grafted. Mr. LOOMIS, of Indiana, said with him "It had no competition in June; thinks more money can be made from it than from any other variety. His trees are root-grafted. Has never noticed any difference in the productiveness of root-grafted and stock worked trees."

Jonathan.—Recommended for further trial. Highly spoken of by Mr. BRYANT of Illinois, and Mr. LOOMIS of Indiana.

Ladies Sweeting.—Not sufficiently known.

Hubbardson Nonsuch.—For further trial.

Baldwin.—Generally a failure in Illinois. Mr. LOOMIS said it bore well in Indiana.

Swaar.—Recommended unanimously for general cultivation, "when worked standard high on thrifty seedling stocks."

Red Astrachan and *Hawthornden.*—Favorably mentioned.

Pryor Red.—Spoken of as a tardy and shy bearer.

The association adopted a resolution to petition the legislature of Illinois to make fruit stealing larceny. Also, appropriate resolutions on the death of A. J. DOWNING, and another recommending the *Western Horticultural Review* as worthy the patronage and cordial support of every horticulturist in the West, being particularly adapted to that soil and climate. We are glad to see the *Review* thus recommended, first, because it deserves it, and second because the information it imparts is much needed. It strikes us that the western cultivator stands peculiarly in want of minute and varied information on account of the innumerable difficulties of the climate.

FRUITS IN MICHIGAN.—I send you a description of the *Gravenstein* apple grown with us from trees brought from your garden and other gardens in Western New York. The tree is a great grower, forms a large spreading top, with extremely long-jointed boughs. Leaves very large, and much serrated. The bark of the young wood is dark red, and has an uncommon bright and shining appearance. Fruit very large, oblong,

and well shaped, often ranging from twelve ounces to a pound, striped with dull red over a yellowish green ground. The skin is uneven, very much resembling the *Twenty Ounce* red streak. Calyx closed, in an even round basin of medium depth; stem long, and rather slender for so large a fruit. Flesh coarse, and no better than the *Twenty Ounce* in quality, of a greenish color. Ripens in October, and continues but a short time. Can this be the *Gravenstein* apple? There are several trees in different gardens among us, and they are all uniformly the same tree and same fruit. [We think so, but it is greatly superior to the *Twenty Ounce* in flavor.—Ed.]

My *Northern Spys* have fruited the past season. The fruit is very fair, and nearly the size of the *Fall Pippin*. I think our warm and deep soils in this section will be favorable for that apple. I think we raise the best *Newtown Pippins* in the world, at least, Long Island cannot come up to us in size or flavor. *Spitzenbergs* and *Swaars* are also very fine; *Baldwins* and *Greenings* are only middling. *Russets* are not worth cultivating; they are large in size, but coarse, dry, flavorless things, more than one half of them rot before spring. If the Pomological Congressmen had stricken out the *Dearborn's Seedling* from the list of pears, we would have been entirely ruined in this quarter for a good August pear after the *Bloodgood*, but thanks to *Seedling's* friends, I should mourn to see it turned out of the door. The *Flemish Beauty*, *Gansel's Bergamot*, *Duchesse d'Angouleme*, come up to the highest standard of perfection with us on standard trees. Pear on the quince has never amounted to a hill of beans with us yet; it is doubtful whether they will, for the quince itself does poorly, and with the best care is short lived, although in some locations they are fine, but such are rare. Geo. Ketchum, 2d.—*Marshall, Mich.*

[The varieties of pears you inquire about can be had at the nurseries here.—Ed.]

The Curculio.—It would have done you good had you seen my *Jeffersons*, *Washingtons*, *Huling's Superbs*, *Green Gages*, *Columbias*, *Goldendrops*, apricots, nectarines, last year, all bending under a tremendous load of the finest fruits ever beheld in the neighborhood of Port Dalhousie, saved as follows:—Placed two or three well made wind mills in the head of each tree, with a clapper attached to each which struck upon a piece of sheet iron, and when the wind blew kept up a terrible jingling noise; one and a half yards of white muslin tied up so as to float nicely in the air as close to the tree as possible without touching it; and lastly, when dinner was over each day, I would catch up a sheet made for the purpose, and say, "Come, boys, hold the sheet," and I would jar the tree and kill all that fell upon it. Operations to commence as soon as the blossoms have fallen, and continued until the stone becomes hard in the fruit, after which the curculio cannot make it drop, though some half or one-sided fruit will appear by his work, but the quantity will be small and not missed. W. H. Read.—*Port Dalhousie, Canada West.*

How to Destroy the Aphis in the Orchard and Nursery.—Having seen several inquiries in different publications, asking information as to some means of destroying the small green insects called Aphis, which are very injurious to the young shoots of apple trees, especially of young grafts, nearly destroying them, and having found by fair experiment a sure and safe remedy, I take the trouble for the benefit of others, to forward it to you for publication, if you deem it worthy of a place in your columns.

Take a convenient vessel, put into it a quantity of white lead, and add water to bring it to the consistence of whitewash. Apply it to the young growing scions with a soft brush, or by dipping them into it. Several applications may be necessary in the course of the season. J. Morse.—*Granville, Bradford Co., Pa.*

Editor's Table.

Fair of the Metropolitan Institute.—The Metropolitan Institute, of Washington, D. C., altho' only six months old, has held one of the most successful exhibitions ever witnessed in the United States. Three steam engines were in operation, one of which, outside the building, drove Page's Saw Mill. This is a recent invention, or improvement, having two circular saws, one above and the other below the saw-log, and each cutting to its center as the log passes between them. A cheap and good saw mill which is portable, is a machine greatly needed in many farming districts. Mr. P. is a resident of Baltimore.

The Conical Burr Mill of Mr. Chas. Ross, of Rochester, N. Y., attracts much attention, and has been honored with some fifty premiums at previous exhibitions.

In the Fruit line, nothing could well exceed in beauty and truthfulness Mr. T. Glover's artificial fruits, of almost every kind grown in the Northern States. His display of pears, apples, plums, cherries, and strawberries, deserves especial commendation. Mr. G. resides at Fishkill, N. Y., and is constantly adding to his collection, which we hope to see purchased and placed in some agricultural museum to which the public may have constant access for study and improvement. The insects injurious to fruit trees and fruits, are true to the life; and the plan is equally applicable to all the larger insects that attack the plants and animals owned by man.

The Marbleized Cast Iron Mantels, manufactured in New York by Mr. E. Deming, are distinguished for beauty, cheapness and durability.

Mr. S. C. Mendenhall, of Richmond, Ia., has in operation a recently invented Hand Loom which is destined to supersede and drive out of use everything of the kind now to be found in families that still weave fabrics for home consumption. Both the throwing of the shuttle and working of the treadles are dispensed with as pedal and manual efforts. The weaver does nothing but move the lay backwards and forwards with one hand; and this simple motion drives the shuttle and treadles, and enables one to weave two or three times faster than he can on a common loom. It will doubtless supersede common power-looms in factories, being less complicated, much cheaper, and little subject to disarrangement.

Marble Slab Coffins, manufactured by John McF. Lyeth, of Baltimore, are impervious to air and water; and where tombs and vaults are used instead of graves, for depositories of the dead, these stone coffins possess many advantages. They neither rot like wood, nor oxidize like metals; and covered with earth in graves, they will last for indefinite centuries.

The above refers to but a very few of the new and useful inventions practically illustrated and exhibited in the magnificent hall of the east wing of the Patent Office. This Hall is itself no mean curiosity in this country; it being 270 feet in length by 70 feet in width. Both the floor and walls overhead are of solid masonry, supported by marble columns. The Hall is soon to be filled with Patent Office models, put up in iron and glass cases, at great expense, that all may be fire proof.

Private Correspondence.—We receive many letters containing inquiries which are not of sufficient general interest to warrant their insertion in the *Farmer*. Some of these we answer privately, but during the winter months such is the press of business consequent on the renewal of subscribers, &c., that we find it absolutely impossible to keep even with our correspondents. Any who have written us and received no answer shall be attended to if they will only pardon our negligence, and write us again during the present leisure season.

A correspondent writes that he has a three year old sow of the Native and Leicestershire breed, that brought sixty-four pigs at three litters in the course of fifteen months, forty-seven of which were sold when four weeks old for $64. Three that were fatted, weighed, when six months old, 200 lbs. each. He adds in a postscript that she has just made another report of twenty little ones all alive and well. This makes eighty-four pigs in twenty-one months.

Col. Sherwood's Sale.—It will be seen by our advertizing pages, that Col. Sherwood will sell part of his stock of Short Horns, at his farm in Auburn, in June next. Col. S. has spared no expense necessary to enable him to avail himself of the best stock to be procured either at home or abroad, and the present sale will be one possessing great attraction to breeders.

CHEMICAL FIELD LECTURES FOR AGRICULTURISTS. By Dr. J. A. STOCKHARDT, Professor in the Royal Academy of Agriculture at Tharand. Translated from the German. Edited, with Notes, by JAMES E. TESCHEMACHER. Published by JOHN BARTLETT, Cambridge, Mass.

This is one of the best little works on agricultural chemistry extant. It is eminently practical and scientific. Though written more especially for German readers, it is a book which no intelligent American agriculturist can read without much profit. It embodies many of the more recent developments of science, and judiciously applies them to the details of farm husbandry. It contains some few theories which do not accord with our experience, and which we have good reason to believe erroneous; but as a whole, these "chemical field lectures" contain more science and sound common sense than any other work we have read on agricultural chemistry.

OREGON.—On one day of the present month, we received six letters from Oregon, each containing orders for clubs of the *Farmer*. Already we have more subscribers in Oregon than in any Southern State, except Kentucky. Large shipments of fruit trees have been made from this section to Oregon, and we have sent by mail more agricultural and horticultural books than to any State in the Union. This speaks well for the enterprise and intelligence of the farmer on the shores of the Pacific.

From a letter from JOHN MINTO, of Salem, (Jan'y 5th) we make the following extract:

"You have an Oregonian's thanks for the compliment in the September number of the *Farmer*. But there is one item in the said number, methinks, neither flattering nor true, viz: the amount of wool that a sheep is said to yield. It is very questionable whether half the amount of wool was given in to the census taker, as there was no pains taken to save it, there being no market for it. The writer himself keeps a small lot of sheep, of which the following is an account for 1852: 21 head, 1 year old and upward, yielded 87 lbs.—washed on the sheep; 14 ewes brought 24 lambs and raised 21; sold washed wool at 40 cts. per lb.; lambs, nine months old, $8 per head; grown sheep commands from $10 to $12 per head. As a general thing, sheep do well without any other attention than penning up at night, which is amply paid for by the manure they make.

"This winter has been an exception, as we have had snow on the ground two weeks; it is all gone now, however.

"To conclude, I beg leave to predict that Oregon will yet be one of the first countries in the world for wool and mutton."

Inquiries and Answers.

(H., Valley Farm, N. H.) Guano would give you good crops of rye and corn. We do not know whether it would pay you to use it on these crops when they sell at $1 per bushel, but should think it would. Can you not get the same amount of fertilizing matter in barn-yard manure, composts, &c., for a less cost than in guano? If you cannot, Peruvian guano is far the cheapest artificial manure in the market. Try a few hundred weight and let us hear the result. Sow it broadcast for rye, and in the hill for corn, being careful, however, that the seed does not touch the guano. 300 lbs. per acre is the usual quantity.

(A. J. HINDS, Grand Rapids, Mich.) There is no foul meadow-grass seed in the seed stores in this city.

(JESSE OSBORN, Paoli, Ind.) The earlier you plant potatoes after the land is in good working condition, the better. They ripen earlier in the fall and so stand a better chance of escaping the disease. Whole potatoes planted in hills 2½ feet apart, is attended with less labor than cutting and planting them in rows, though the latter probably gives the largest yield per acre. We prefer planting in hills. Well rotted hog manure is considered best for potatoes.

(E. WARE, Jr., Hancock, N. H.) We do not think it would be profitable to mix salt at 50 cts. per bushel, or plaster at $10 per ton, with guano, previous to sowing on spring wheat. We have had no experience in composting it with meadow muck. We should think, however, that it would be advantageous to use it in this way. Salt is not, to our knowledge, used by New-York farmers in stacking wheat. It is used to great advantage on hay.

Multicaul Rye is a winter grain.

Back numbers of the *Genesee Farmer* are *not subject to a higher rate of postage* than when mailed at the regular time of publication.

BEET SUGAR.—I have noticed various accounts for years past relating to the manufacture of Beet Sugar, and I think I have seen statements of the expense of an establishment upon a small scale—the whole process of manufacturing—but I do not know where to look for the account. A number of subscribers seem to feel interested in the matter, and would be pleased to understand the whole plan. HERVEY JOHNSON.—*Holland.*

Much has been said and written on the production of beet-root sugar in this country, but so far as we know little has been satisfactorily *done*. We are still destitute of that practical and pecuniary information which farmers most desire. Any of our readers who have experience on this subject, will do us a favor by expressing their views in the *Farmer*.

BARN-YARD MANURE.—Please notice in the *Farmer* the best method of treating barn-yard manure that is made during the winter—I mean in the yard. Whether it should be applied in the spring, or otherwise; and where it is intended to be preserved for the following spring crop, how it should be preserved to the best advantage? W. J. COLEGROVE, *Norwich, Pa.*

The above questions are of great practical importance, and we trust they will call out the opinions of our experienced correspondents. For our opinions on the proper management of manure

during winter, see last December number. If the manure has been properly prepared during winter, and is sufficiently decomposed, we should decidedly prefer to use it for spring crops rather than let it lie over for wheat. It is, perhaps, better applied to corn than any other spring grain crop. It is, however, sometimes very convenient and advantageous to plow it in early for barley. For root crops, manure should be thoroughly decomposed.

Will not four quarts of lime if heaped against peach trees injure them? (1.)

We use soft soap mixed with an equal quantity of water, in this part, as a wash for fruit trees, and think it is much superior to any other, as each rain dissolves some of the soap and makes it appear as if freshly washed. Now would this running down of the soap prevent the *borer* in apple and peach trees? (2.)

Which do you consider the best treatise on poultry? (3.)

Which agricultural chemistry is considered the best? (4.) D. M. Lee.—*Ancaster, C. W.*

(1.) No.

(2.) It might to a slight degree.

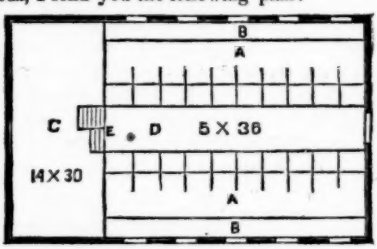
(3.) Dixon & Kerr's Domestic Poultry.

(4.) Boussingault's Rural Economy, Johnston's Agricultural Chemistry, or Norton's Elements.

Swamp Land.—I am the unfortunate possessor of some swamp lands, respecting which I wish to make some inquiries of you, through your paper, of some one who can give the desired information. The swamp contains about 150 acres, and in its composition appears to be purely vegetable, being of a reddish brown when first thrown up, but becoming black by exposure to the atmosphere. It is of unknown depth, being easily probed with a pole to the depth of twenty feet. Now what I want to know is, whether if it was made dry it would be likely to be good farming land. I can get it made dry for $1,000—too much money to throw away, but a good investment if it will make farming land, or even bring good crops of cultivated grass. Any information will be thankfully received. J. K. Taylor.

We cannot tell whether it would pay to improve such a swamp, unless we had a sample of the soil and submitted it to a thorough chemical examination.

Cow Stable, &c.—In reply to Mr. Levi Paddock, I send you the following plan:



PLAN FOR A COW STABLE.

The stable is 30 feet wide, 36 feet long, with a bay 14 feet by 30 feet. The stable should be 6 feet 6 inches high in clear, with floor descending back 1 to 25 or 30 inches, with a gutter 2 inches deep behind the cows and the back end of the floor plank to lie on the top of the gutter; the manger to be 2 feet 6 inches wide at the top, 2 feet at the bottom, 1 foot 8 inches deep in front, 4 feet deep next the feed room, and set up from the floor 4 inches. The floor should be on the ground, so as to admit of no air under it. Make the stalls 2 feet back from the manger by setting boards on end, and divide the manger at each stall, in order that each cow may get her allotted food, meal, &c. The cellar, I think, is not necessary at all, but if it is wanted to keep vegetables for the cows, let it be under the bay with a window east and west; dig it 4 feet below the stable and raise it 2 feet above the ground and bank it up with earth. I have six steps to go down cellar and three to go up into the bay. The cows should be fastened by a strap around the neck (not on the horns) and a half-inch rope tied to the center of the front part of the manger. To save the liquid manure, put an inch thickness of tan-bark in the gutter, in order to absorb it, and all may be put out together; old tan-bark is the best, but sand or any dry earth will do. Cut the stable doors in two a little above the center, to open the top, and light and ventilate the stable. The stalls are 3½ feet wide, to give room to milk and card the cows.

I have a number of objections to putting a cow's head in stanchions. One is, she is in misery from the time she lies down till she gets up. You will see a cow at liberty, when lying down, swing her head toward her feet to balance herself. It being an old habit does not argue that it is a good one. Nazro Park.—*Bridgewater, Pa.*

Sun Flower Seed.—I take the liberty to answer "J. W. N.'s" inquiry in the last *Genesee Farmer* in relation to sun-flower seed. I have fed it to poultry for the last two winters, and found it valuable. It being oily supplies the place of meat—a bushel of seed yielding a galon of oil. I find one-third sun-flower seed, and two-thirds oats and wheat, mixed together, the best proportion. However, corn might be used for a change in place of the two latter. The hens should have plenty of lime near them. Have boxes made eight inches deep, with bars across the top wide enough apart to admit a hen's head, which will prevent wastage of grain; fill the boxes in the morning, so that they may be supplied through the day. Hens not being acquainted with sun-flower seed, may not eat it at first, but soon will. By so doing, you will be supplied with eggs through the winter, beside the fowls fatting fast. If you wish them to lay, have plenty of gravel near them. Sun-flower seed is not in the least injurious. H. C. Adgate.—*East Bethany, Gen. Co., N. Y.*

Chip Manure.—I notice some inquiries about chip manure. I will say what I do with mine. I put it in my hog pen in the fall when my hogs are fatting. I take about two wheel-barrow loads at a time and let it remain till thoroughly stired up by the hogs; I then throw it out and wheel in some more; and in the spring I have a fine pile ready to put under corn. L. Fitch Hubbell.—*Burlington Flats, Ots. Co., N. Y.*

STRETCHES.—In the March number of your paper the inquiry is made whether there is such a disease among sheep as "stretches." I answer yes, it is cured by taking the sheep by the hind feet, and as he springs forward you pull back. Jerk back so half a dozen times, if you please. It will effect a cure. I have never lost one served in this way. L. N.—*Augusta.*

ROOT CULTURE.—Will you do me the favor to inform me at your earliest convenience, the best method of raising the ruta baga carrots and sugar beet. How the soil should be prepared, the time of planting, the space of planting—in short, I wish you would give such information as you may deem profitable, as the raising of these valuable roots is not much attended to in this country. C. LONG.—*Mt. Carroll, Ill.*

HORTICULTURAL.

(J. S., Brookfield, Wis.) HOW TO SAVE, AND WHEN TO PLANT, RASPBERRY AND BLACKBERRY SEED.—Take the largest and finest *well-ripened berries*, press the juice out of the pulp, dry it a little, and sow immediately in a mixture of light, sandy loam and leaf mold, either in the open border or in pots or boxes.

(R. L. G.) The weeping willow succeeds quite well on "dry upland." The best specimens we know are on dry soils.

(S.) We have no faith whatever in your theory of the production of "sweet and sour" apples. We know the apple well which you send, and have it bearing on our own grounds; but it has not been produced by "bisecting buds,"—that is mere moonshine.

(J. L. H., Steubenville, Ohio.) We know of no monthly bearing strawberry the size and shape of yours. It may be a valuable variety. We would be glad to get a few plants for trial.

(A. M., Oberlin, Ohio.) Your orange and lemon trees should be grafted or budded. It may be done any time.

(J. S. P., New Holland, Ind.) Osage Orange seed is sold at the seed stores for about $1 per quart. Two or three quarts will give you plants enough for 100 rods of hedge.

(N. C. Y., West Creek, Ia.) You can get Osage Orange seed of N. G. MANN & Co, Louisville, Ky, at $20 per bushel. Probably you can get it in Cincinnati.

(J. W. G., Ball's Pond, Conn.) We do not know that the *Baldwin* will be suitable for shipping.—Its flavor and texture will not please the better class of foreign purchasers as well as the *Newtown Pippin.* They prefer crisp, high flavored fruits.

(A. G. B., Merrillville, Ia.) It is better to grow the Osage Orange plants in a seed bed or drills, and then transplant to the hedge-row. We have directed another correspondent where to obtain seeds.

(J. H., Chippewa.) You can obtain the pears in any of the nurseries here. See advertisements.

(J. N. B., Yellow Creek, Ohio.) We will thank you for a few scions of three or four of your best seedling apples—long keepers.

(R. P. W., Picton.) Bone dust is valuable for trees. Either mix with the earth at the time of planting, or spade in lightly around the trees. The old lime may be applied in the same way.

Peach trees, on the south side of a building, will be too much subjected to freezing and thawing. They will do better on the north side. *Crawford's Early* is a hardy variety for September.

(H. M., Bodega, California.) Easterly winds are not injurious to our fruit crops here. Our most destructive winds are the west and northwest, generally.

Fruit buds are larger, rounder, and more prominent, than leaf buds, generally. The differences are pointed out and illustrated in the *Fruit Garden.*

(J. D. E., Rough and Ready, Ky.) The sheep skin, with wool, placed around the trees might prevent the ascent of ants, but the curculio *can fly,* and no mistake; you can't draw the wool over his eyes.

A correspondent asks:

"Will cranberries succeed profitably on wettish creek bottom land which overflows three or four times in the course of the season? This land is never overflowed longer than two days at a time.

"Would they do well on the margin of a pond?"

Superphosphate of Lime,

IN BAGS and Barrels, made by C. B. DE BURG, with full directions for use,—warranted a pure and genuine article—for sale by GEO. DAVENPORT,
No. 5 Commercial, corner of Chatham street, Boston, Agent for the manufacturer.

Also, for sale, Ground Bone, Bone Dust, Burnt Bone, Guano, and Grass Seeds, of reliable quality. [4-tf]

Farm Implements for California.

BURRALL'S Prize Reapers, Mowers, Threshers, and Separators; Clod Crushers, Field Rollers, Cultivators, Horse Powers, &c., &c.; all warranted of the best material and workmanship,—strong, simple, and reliable,—expressly for that market. Made, and sold cheap for cash, by
THOMAS D. BURRALL,
[2-3t] Geneva, Ontario Co., N. Y.

Emery & Co.'s Improved Horse Powers, Threshers, and Seperators.

THE undersigned have been appointed sole agents for the sale of Emery's new Patent Improved Horse-Powers, Threshers, and Separators, in the city of New York. The State Agricultural Warehouse is the only depot where this superior Power can be had.
LONGETT & GRIFFING,
7-tf. State Ag. Warehouse, 25 Cliff st., New York.

New Pension Laws.

REVOLUTIONARY, Indian Wars, War of 1812, Florida, and Mexican Wars. Claims for Pensions allowed the widows of those who died in service, prosecuted by
F. E. HASSLER,
Washington City, D. C.

☞ All letters must be pre-paid.

Refers to Hon. Lynn Boyd, Speaker, H. R. Hon. J. D. Doty, H. R. March, 1853.

Fruit and Ornamental Trees.

FOR sale, as usual, at our old location on East Avenue
BISSELL & HOOKER,
[3-2t] Commercial Nurseries, Rochester, N. Y.

Prouty and Mear's Plows.

A large assortment of these celebrated Plows can be found at the North River Agricultural Warehouse and Seed Store, 53 Cortland St., New York. GEO. H. BARR & CO.

Basket Willow.

CUTTINGS of the best kind of basket willow (with directions for planting) for sale at $5 a thousand by
WM. H. DENNING,
March, 1853—2t*. Fishkill Landing, Dutchess Co.

Hong Kongs!

THE subscriber offers for sale the present season, Eggs of the famous Hong Kong Fowl. Address, post-paid,
SAM'L McINTOSH,
April, 1853. Canoga, Seneca Co., N. Y.

Eggs for Hatching.

THE subscriber offers for sale during the coming season, Brahma Pootra, Shanghae, and Black Spanish eggs for hatching, from as good stock as can be found in America.
THOMAS WRIGHT.
[4-2t] Utica, N. Y.

Eggs of Chinese Fowls for Sale.

I HAVE a fine collection of all the improved varieties of fowls, and will sell eggs the present season of the following varieties:

White Shanghae, Black Shanghae, and Red Shanghae, at $3 per dozen, nicely packed and forwarded as directed.

Also, Royal Cochin China and Brama Pootra, at $4 per dozen. All fresh and fit for setting.

Address WM. VICK,
April, 1853. Rochester, N. Y.

Cochin China Eggs for Sale.

THE subscriber has the best collection of Cochin China fowls in the State, and, perhaps, in the country—so stated by those who have seen them. They obtained the first premium at the Monroe County Agricultural Fair last fall. My stock was obtained from J. VICK, JR., one of the editors of the *Farmer*, and are pure and exceedingly fine.

I will sell eggs from these fowls, nicely packed, and forward by express, or in any way directed, for $4 per dozen.
MILES DECKER,
April, 1853. Rochester, N. Y.

Clarke's Excelsior Churn!

FROM present indications 100 to 500 of these improved and *most valuable Churns* are needed, and can be sold in every dairying county of the Union. *Warranted superior to any other kind!*

Price—two sizes—delivered on the railroad at Utica, $7 and $10 each.

County rights for sale. Apply to
GEO. B. CLARKE, Patentee,
[4-1t] Leonardsville, Madison Co., N. Y.

Plows and Cultivators.

PROUTY & MEARS' Patent Center Draft Plows—all sizes—and castings for the same.

MINOR & HORTON'S New Improved, fitted up in the most substantial manner.

RICH'S Iron Beam Plows, of all sizes.

Universal Cultivators, with Scrapers; Expanding do.; and Hand Garden Cultivators and Plows.

For sale by LONGETT & GRIFFING,
[4-1t] No. 25 Cliff street, New York.

American Eloquence for the Million.

NOW PUBLISHED, *Daniel Webster's* three Greatest Orations, and the Speech in Reply to Hayne.—The volume contains the Eulogy on Adams and Jefferson; First Settlement of New England; the Bunker Hill Monument; and the Reply to Hayne. The work is embellished with a fine and accurate portrait on steel, of the great statesman and orator.

Price—Single copies, 37½ cts., in paper; in muslin binding, 50 cts. It can be mailed to any part of the world. Three copies for $1.

Address all orders to
WILBUR M. HAWARD, Publisher,
April, 1853. Rochester, N. Y.

Charles Moulson

OFFERS for sale at his nursery, situated on North Union street, a few rods north of New Main street, a general assortment of Fruit Trees, consisting of the best varieties of Apples, Pears, Plums, Peaches, Apricots, Dwarf Apples and Pears on Paradise and Quince stocks. Also Currants, Gooseberries, Raspberries, Strawberries, Grape vines, Rhubarb, and Asparagus plants. Also, 10,000 Apple seedlings, for stocks.

All orders will receive prompt attention, and when requisite, trees will be packed suitable for transportation.

Rochester, April 1, 1853.

Manures!

Superphosphate of Lime, (Deburgh's), 2¼ to 2½ cts. per lb.
Peruvian Guano, 2¼ to 2½ " "
Bone Dust, Sawings, or Meal, $2.50 per bbl.
Turnings, and Fine Crushed, 2.25 "
Potash, 3¼ to 4 cts. per lb.
Charcoal, pulverized, $1 per bbl.
Sulphuric Acid, 2¼ to 2½ cts. per lb.
Plaster of Paris, $1 to 1.25 per bbl.

For sale at the State Agricultural Warehouse,
LONGETT & GRIFFING,
[4-2t] No. 25 Cliff street, New York.

REMOVAL!

HALLOCK'S AGRICULTURAL WAREHOUSE has been removed from No. 50 State street, to

No. 24 Exchange St., Rochester,

in the Store formerly occupied by J. E. CHENEY as a Stove Store. The new store is well supplied with Implements, Seeds, &c., comprising a larger and more complete assortment than heretofore. Former customers and farmers generally are invited to call at the new establisment and examine for themselves. E. D. HALLOCK,
April, 1853. 24 Exchange St., Rochester, N. Y.

Improved Superphosphate of Lime.

AND *C. B. Deburg's No.* 1 *Superphosphate of Lime.*—The subscribers have been appointed sole agents for the sale of C. B. Deburg's No. 1 Superphosphate of Lime, and do hereby agree to warrant the above article sold by us, with our names on the bags, to be equal to the analysis made by Prof. Johnson, of Yale College, of the so-called Improved Superphosphate of Lime, manufactured under the direction of Prof. Mapes. And any person who may have the said C. B. Deburg's No. 1 analyzed, if not equal to that analysis, we will pay the cost of such, not to exceed $5, and will refund the money to the purchaser upon the return of the Superphosphate.

☞ Price $45 per ton.
LONGETT & GRIFFING.
State Agricultural Warehouse, 25 Cliff st., near Fulton, New York. [4-1t]

Imported Horse, "Consternation."

THIS thoroughbred horse has been so often exhibited at the Fairs of the New York State Agricultural Society, and always without a rival, that it is unnecessary either to describe or praise him. Six or seven of his colts, of various ages, were shown with him at Utica last fall. Two of them received first premiums, and all of them were greatly admired. Many of them, now four and five years old, are owned in Oneida county. Any person may be convinced of their great superiority by inquiring of almost any farmer or horseman in the towns of Rome, Lee, or Western. His colts and fillies are already in demand for breeding. Several have been sold during the past winter, at handsome prices, to go out of the State.

His pedigree will be found complete in Derby & Miller's edition of Youatt, and is confirmed in every particular by breeder's certificates and copies of the English Racing Calendar, and English Stud Book, now in possession of the subscriber.

He will stand the coming season at the farm of the subscriber, two miles west of Syracuse and adjoining the town of Geddes.

Terms.—$10 for the season, and $15 to insure; the money to be paid in advance in all cases. When a mare is insured and left at the farm of the subscriber, or regularly returned to the horse until the groom is satisfied she is in foal, a receipt will be given promising to refund the money if the mare was not got in foal. Pasturage furnished at three shillings per week. Mares to be at the risk of owners in all respects. J. B. BURNETT,
[4-3t] Syracuse, N. Y.

THORBURN'S SEED STORE.

THE Subscribers, wholesale and retail dealers in VEGETABLE, FLOWER, FIELD, FRUIT and TREE Seeds, offer, all of last year's growth, the largest and most complete assortment to be found in the United States, all pure and of unsurpassed qualities, derived from first sources in Europe or raised expressly for them in this country.

MARKET GARDENERS, and others requiring large quantities of Seeds for their own planting, may rely on obtaining Beets, Cabbages, Carrots, Brocoli, Cauliflower, Onions. Early and Late Peas, Beans, Radishes, and other leading articles, raised from the same unrivalled stocks, which have given such general satisfaction heretofore in all parts of the Union.

AGRICULTURISTS are offered White French and Yellow German Sugar Beet, Long Red and Yellow Globe Mangel Wurtzel, Purple Top and Skirving's Improved Ruta Baga, all at 50 cents per pound. Long Orange, Altringham and White Field Carrots, $1 per pound; with all other varieties of Agricultural seeds, Clovers, Grasses, Vetches, &c., at corresponding fair prices, and of qualities to be depended on.

RETAILERS and COUNTRY MERCHANTS supplied on the most favorable terms.

CATALOGUES furnished to post-paid applicants.

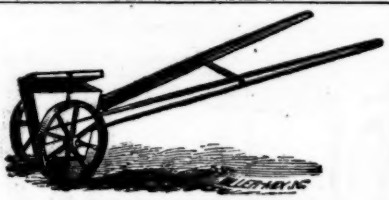
FLOWER SEEDS can be forwarded expeditiously by mail at trifling cost.

Particular attention given to the careful packing of seeds for long voyages, and the smallest order by mail promptly attended to. J. M. THORBURN & CO.

15 John street, New York.

☞ JUST PUBLISHED—Thorburn's annual catalogue of Native and Exotic Tree, Shrub, &c. Seeds.

April, 1853—2t.



Hallock's Hand Seed Drill.

THIS Drill is adapted to sowing carrot, turnip, beet, onion, and other small seeds in drills, with perfect regularity, and without regard to their weight or shape. The seeds are forced out by a circular brush, which revolves against a perforated tin plate inserted in the bottom of the hopper. A series of these plates accompany each drill, with holes of different sizes for regulating the quantity and kinds sown. It is a light, compact, and durable machine, and not liable to get out of order. They can be forwarded to any part of the country by railroad or stage. Remittances by mail at my risk. All orders (which should give full directions for forwarding,) promptly attended to. Price, $5.

Address E. D. HALLOCK,

April, 1853. Rochester, N. Y.

Patent Mammoth Premium Corn-Stalk, Hay, and Straw Cutters & Grinders.

CAPABLE of preparing 100 bushels of Corn-stalks, or One Ton of Hay or Straw, per hour, and reducing the largest Corn-stalks to the consistency of Cut Straw, avoiding the necessity of steaming or soaking, and saving 80 per cent. over the common way of feeding fodder. Horses and Cattle will do as well on fodder prepared this way, as on the best hay. The First Premiums have been awarded at every exhibition where they have been exhibited for competition. It can be worked by hand or power, without additional cost. The inventor will forfeit $50, after an impartial trial, when this Machine is used in preparing good fodder, if it does not prove to save 80 per cent. over the common way of feeding fodder, and it may be fed in the same condition as the machine leaves it, without meal or soaking. Cows fed on fodder produce sweeter butter. Over 900 of these Machines have been sold. Price—$35.

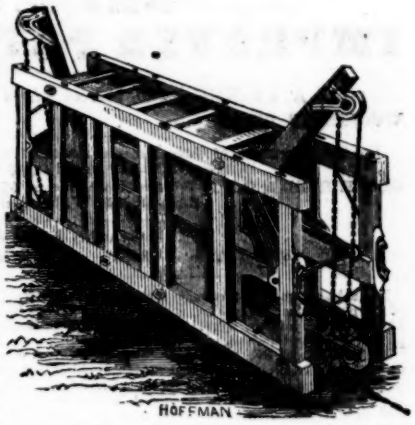
☞ State and County Rights for sale.

Gilbert's Excelsior Thresher and Cleaner,

Accomplishing more, with the same power, than any other Machine. It can be driven with two horses.

Price—$200 and upwards, according to size. Horse Power included. Apply post paid to J. G. GILBERT,

[2-tf] 216 Pearl st., New York.



H. L. Emery's Newly Invented Double, Toggle-Jointed, Horizontal, Progressive Lever Hay and Cotton Press.

PROBABLY no one thing has been more wanted, and less improvements made upon it of late years, than the Hay Press. Notwithstanding this was completed quite late the past season, a large number were made and put into successful operation. As seen in the cut it is closed up and about midway in process of compressing a bundle of Hay. When fully pressed home, the ends of the levers, which are seen at each end extending above the box, are brought down by the chains or ropes and shelves, until the levers themselves become horizontal with the floor. The Press is provided with two followers, both working from the ends towards the center and each other. The chains or ropes from the levers are connected together by passing one of them under the machine and both joining in a larger chain or rope—this larger one being connected with a capstan or blocks and ropes, as most convenient.

When the Press is driven home, the hay becomes pressed into a bundle standing on its end. The side doors are thrown open while the bands are passed round the bundle and secured, when the top doors are loosened and the bundle thrown out. For operation, the levers are raised, the followers drawn back, and the top doors opened from the center to each end by unbuttoning the middle cross bar, as seen in the cut. The opening on the top for receiving hay, is 2 feet wide and 8 feet long. The Press stands upon the floor or ground when in use, which makes it both convenient and capacious for filling and treading in the hay.

The whole Press measures 14 feet long, 2 ft. 10 in. wide, 4 ft. 10 in. high, outside measurement, and weighs, complete, from 1200 to 1500 lbs., and is capable of compressing 250 lbs. of Timothy Hay into 16 cubic feet, (being 2x2x4 ft.) at the rate of five bundles per hour, with two men and one horse, and heavier bales in proportion as to size and time required.

For transportation, the inside work is readily removed and boxed up, while the sides are packed together making solid cubic measurement of the whole thing.

Price complete, with chains and capstans, $135, and warranted to work as represented, to the satisfaction of the purchaser.

I will, in a future number, give a further notice in detail, with more cuts illustrating its several parts detached.

For further particulars address H. L. EMERY,

April, 1853. Albany, N. Y.

Phosphoric Plaster,

FOR FARM & GARDEN USE.—This plaster as analyzed by Prof. J. P. NORTON, of Yale College, contains the following ingredients: Silicia, Magnesia, Alumnia, Oxide of Iron, Lime, Phosphoric Acid, and Phosphate of Lime.

From the most thorough trial of its properties in the growth of grains and other vegetable matters, this plaster has been proved to be the best adapted to all kinds of land of any that has been heretofore brought into use.

Manufactured at Clymer, Chaut. Co., N., by

[4-1*] EMANUEL BEARDSLEY.

PRINCE & CO.'S
IMPROVED PATENT MELODEON.

GEO. A. PRINCE & Co., MANUFACTURERS, 200 MAIN ST., BUFFALO, N. Y.

WHOLESALE DEPOT, - - - - - - - 87 FULTON STREET, NEW YORK.

For the convenience of MUSIC DEALERS in all parts of the United States, we have made an arrangement with the following firms, who will supply the TRADE at our regular Factory prices:

GEO. P. REED & CO., 17 Tremont Row, Boston, Mass. COLBURN & FIELD, 154 Main St., Cincinnati, O. BALMER & WEBER, 58 Fourth St., St. Louis, Mo.

General Agent for New York City,

WM. HALL & SON, - - No. 239 Broadway, opposite the Park.

The subscribers take this method of calling the attention of the public to a new Musical Instrument, as yet but little known to the musical world, viz: Prince and Co.'s Improved Patent Melodeon.

It is now about five years since these instruments were first offered for sale, and during that time the increased demand for them has been unparalleled. One hundred and fifty workmen are constantly employed in the manufacture and finishing from 75 to 80 instruments per week, and as yet they have not been able to supply the demands promptly.

For the benefit of those residing at a distance, and consequently unable to inspect the Melodeon before purchasing, we will endeavor to give a short description of the instrument.

The cases are made of Rosewood, and are as handsomely finished as any piano forte. The keyboard is precisely the same as the piano or organ, and the tone (which is very beautiful) closely resembles that of the Flute Stop of the Organ—the notes speak the instant the keys are touched, and will admit of the performance of as rapid passages as the Piano. The Pedal on the left is intended for a swell, and with which the most beautiful effects can be produced. The Pedal on the right supplies the wind, and works so easily that a child can manage it without any exertion. The Bellows, (which is something entirely new, and for which a Patent was granted in December, 1846,) is a reversed or exhaustion Bellows, and it is this, in a measure, which produces the peculiar tone. The instrument can be immediately made portable without detaching any part, the bellows receding into the body of the instrument, and the legs folding under and springing to their places, leaves the whole in a compact form. Each instrument has a packing case secured by lock and key.

The volume of tone is equal to that of a small organ, and by means of the swell may be increased or diminished at the pleasure of the performer; it is sufficiently loud for small churches, and is well calculated for a parlor instrument. Hundreds have examined them, and all have been loud in their praise; and the best evidence of their merit is their rapid sale. But it is a new instrument—a new invention, and is yet but little known in the musical world, and it is for this reason that we call to it the attention of all lovers of Music, believing that there are thousands who would lose no time in securing one, were they aware of the existance of such an instrument, and the low price at which it could be obtained.

The following letter from Lowell Mason, Boston, to G. P. Reed, we are permitted to use:

Mr. GEO. P. REED, No. 17 Tremont Row, Boston, Mass.

Dear Sir—At your request I have examined one of the Melodeons manufactured by Messrs. Geo. A. Prince & Co., of Buffalo. I think the instrument in all respects equal, and in some respects superior, to any others of similar kind which I have seen, and in particular with respect to quality of tone and promptness of touch, or action of the reeds, by which quick passages may be performed with certain and distinct articulation of tones. An instrument of this kind is the best substitute for an Organ in Church Music with which I am acquainted. LOWELL MASON.

Boston, Mass., Sept. 26, 1849.

Five Octave—Portable. Price, $75.

PRICES.

FOUR OCTAVE MELODEON, extending from C to C,	$45 00
FOUR AND A HALF OCTAVE MELODEON, extending from C to F,	65 00
FIVE OCTAVE MELODEON, extending from F to F,	75 00
LARGE FIVE OCTAVE MELODEON—Piano style,	100 00
LARGE FIVE OCTAVE MELODEON—Piano style with two sets of reeds, tuned in octaves,	150 00

☞ Just published, "PRINCE'S COMPLETE INSTRUCTOR FOR THE IMPROVED MELODEON; to which is added favorite Airs, Voluntaries, and Chants, arranged expressly for this Instrument. Price 75 Cents.

CAUTION.—In consequence of the great success which has attended the introduction of Prince & Co.'s Melodeons, numerous imitators have sprung up in different parts of the country—offering instruments under the same name, and in outward appearance resembling them. We would therefore caution the public to be on their guard, and examine those made by Prince & Co. before purchasing. Many improvements applied *are exclusively our own*, and being the original manufacturers, our experience has enabled us to produce Instruments which a discerning public have unanimously pronounced superior to any thing of the kind hitherto manufactured. Many of the most eminent Musicians of the cities of New York and Boston have voluntarily given testimonials as to the high character of our Instruments, which can be seen on application.

All orders from a distance will be promptly attended to, and a written guaranty of their durability will be given if required.

GEO. A. PRINCE & CO.

FRUIT TREES, &c.

A. Frost & Co., Genesee Valley Nurseries, Rochester, N. Y.

OFFER for sale the following at low prices, which comprises a part of their large stock, that they will forward to any part of the country. Parties can depend that no second rate articles will be sent out, and that they will prove to be true to description. The packing is done in the most secure manner, that plants may reach their destination in perfect safety.

APPLE TREES.—Standards of fifty best leading varieties of apples. Dwarf and Pyramidal bushes, 1 and 2 years old, for gardens.

PEAR TREES.—Standards, on pear stock, 2 and 3 years old, comprising all the fine sorts. Pyramidal and Dwarf, worked on imported Quince, 2 and 3 years old. Pyramidal, extra size, with fruit buds.

CHERRY TREES.—Standards, a large collection embracing 48 best sorts. Dwarf and Pyramidal, 2 years old, for orchards and gardens.

PEACH TREES.—All the desirable varieties.

PLUM, NECTARINE and APRICOT Trees.

QUINCE BUSHES.—Portugal, and the Apple or Orange.

GRAPE VINES.—Native—Catawba, Clinton, and Isabella. Foreign, in pots, suitable for planting at once; embracing 18 of the finest sorts.

CURRANTS.—White and Red Grape, Cherry, May's Victoria, White and Red Dutch, Black Naples, English, and 8 other kinds.

GOOSEBERRIES.—A large stock of 40 Prize Lancashire varieties, best suited for cultivation in this climate.

RASPBERRIES.—Yellow, or White, and Red Antwerp, Fastolf, Franconia, Large Fruited Monthly (Rivers,) and the Red Antwerp which is so extensively cultivated on the Hudson for the New York market.

STRAWBERRIES.—12 of the best sorts.

ESCULENT ROOTS.—Asparagus, 2 years; Rhubarb of all sorts; Sea Kale, &c The Asparagus will be sold very low, if a large quantity is taken.

HEDGES.—Privet, 2 years; Buckthorn and Osage Orange, 1 year.

THE ORNAMENTAL DEPARTMENT

is very extensive, and they refer parties to their catalogue for the varieties they cultivate, but will notice the following:

SALIX PENDULA.—A new Weeping Willow. It is one of the most beautiful and graceful trees, for lawns, &c., in cultivation.

ROSES.—An extensive stock on hand, comprising more than 300 of the varieties. 150 of the sorts are Remontant or Hybrid Perpetuals, many of which that are now offered by them are presented to the public for the first time in this country.

BULBS.—Of those that are suitable for planting in the spring, they have strong flowering ones of Japan Lilies, which will produce from one to five blooms each, as follows: Lancifolium album and rubrum, Lancifolium punctatum.

BEDDING PLANTS.—Their stock of Dahlias, Verbenas, &c., &c., for extensive and choice varieties of the respective kinds, cannot be excelled, if equalled, in the United States.

100,000 Norway Spruce Firs, and other hardy evergreens. 4 to 15 inches high. Price very low by the quantity.

☞ The following Descriptive Catalogue, lately published, and containing the prices, will be mailed *free*, upon application, when *one* cent postage stamp is enclosed for each Catalogue wanted, to any part of the country.

No. 1. A Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, &c., &c.

No. 2. A Descriptive Catalogue of Dahlias, Verbenas, and other bedding plants.

No. 3. A Wholesale Catalogue or Trade List, for nurserymen and others who wish to buy in quantities.

March, 1853.

Gooseberries, Fastolf Raspberries, &c.

JOHN SAUL, Washington, D. C., offers the following for sale:

4,000 Lancashire Gooseberries, comprising all the leading varieties, such as Crown Bob, Roaring Lion, Red Warrington, Champagne, Leigh's Rifleman, Parkinson's Green Laurel, Woodward's Whitesmith, &c. The plants are very vigorous and thrifty, and true to name.

4,000 Fastolf Raspberries, strong canes, warranted the genuine variety.

300 Raby Castle or Victoria Red Currant,—the largest and best. 300 Wilmot's large Red do. 500 White Dutch do. 300 Black Naples do.

☞ The above at very reasonable prices.

March, 1853—2t.

D. S. MANLEY & BROTHER,

BUFFALO NURSERY,

Buffalo, N. Y.

HAVING purchased this well established Nursery of its original proprietor, Col. B. Hodge, we take pleasure in offering for sale an unusually fine assortment of

FRUIT AND ORNAMENTAL TREES, SHRUBS AND PLANTS.

Our Fruit Department is supplied with fine healthy trees on their own stocks, of all the desirable varieties now in cultivation, together with Cherries and Pears dwarfed on superior stocks.

The Ornamental Department includes all the best varieties of Evergreen and Deciduous trees.

Roses.—One of the finest collections in this country, comprising all that are new and rare.

Dahlias.—An unrivalled selection of Dahlias, which has been procured at great cost.

Peonias.—We call particular attention to our stock of Peonias, both herbaceous and tree varieties.

The stock of *Shrubs* is unusually extensive and was collected by the late proprietors with peculiar care.

Of Currants, Gooseberries, Raspberries, Grapes, and Strawberries, we have vigorous plants of the best varieties.

It will please us to furnish all applicants with our Catalogue.

Norway Spruce, Silver Fir, &c.

JOHN SAUL, Washington, D. C., offers the following for sale:

300,000	Norway Spruce,	4 to 6	inches.
300,000	" "	6 to 8	"
15,000	" "	9 to 12	"
8,000	" "	2 to 3	feet.
10,000	Silver Fir,	4 to 5	inches.
30,000	" "	5 to 6	"
10,000	" "	6 to 7	"
1,000	" "	12 to 18	"
1,000	" "	2 to 3	feet.
3,000	Larch (Europ'n)	2 to 3	"

The attention of Nurserymen and Planters generally, is respectfully called to the above extensive collection, which will be sold at very low prices. Persons taking large quantities will be dealt with liberally. The whole are remarkably thrifty and fine.

March, 1853—2t.

Osage Orange.

IT has now been demonstrated that this plant will make a better hedge than anything heretofore used for that purpose, and that it is perfectly adapted to this climate. Some of its advantages are as follows:

Animals of every kind are fearful of it, for it has as many strong, sharp thorns as there leaves upon the plant.

No animal will browse it, not even to eat a single leaf.

It grows rapidly and will make a perfect hedge against man or beast in four or five years.

It is perfectly hardy, as has now been well proved on our own premises.

☞ We offer for sale 25,000 fine plants. Price $10 per 1000.

BISSELL & HOOKER,

[3-2t] Commercial Nurseries, Rochester, N. Y.

Premium Dahlias.

THE subscribers offer for sale this Autumn and the ensuing Spring, 10,000 Dahlia Roots, which have proved to be the choicest collection in the States and Canadas. [See records of the Fairs for the last four years.]

Persons commencing the Nursery business, and Amateurs, will find it to their advantage to give us a call, or make enquiries before purchasing elsewhere.

C. J. RYAN & CO.,

Rochester and Charlotte Plank Road Nurseries, Rochester, N. Y. [11-tf.]

Superphosphate of Lime.

THE genuine article, manufactured by C. Duburg, in bags of 150 lbs. each. The subscribers have made a contract for a large quantity. We are now prepared to supply any quantity that may be ordered. Farmers and gardeners would do well to call on us before purchasing elsewhere, as we are now able to sell for a less price than heretofore offered. Every bag is branded "C. Duburg, Extra, No. 1."

LONGETT & GRIFFING,

State Agricultural Warehouse, No. 25 Cliff Street, New York. [11-tf]

MOUNT HOPE NURSERIES.

FRUIT AND ORNAMENTAL TREES.

ELLWANGER & BARRY desire to call the attention of nurserymen, dealers, and planters, to the immense stock of trees now on their grounds, embracing Fruit Trees of every description, viz:

STANDARD APPLES, PEARS, PLUMS, CHERRIES, PEACHES, &c., on free stocks, for orchards, vigorous and well formed.

DWARF AND PYRAMIDAL PEAR TREES, on quince stocks. About 50,000, embracing every fine variety that can be worked, two year old trees, low branched, vigorous and beautiful.

DWARF AND PYRAMIDAL CHERRIES, on Mahaleb stocks. Fine one, two and three years old trees, well branched and finely formed.

DWARF APPLE TREES, on Paradise and Doucain stocks. Beautiful two year old trees, with heads, for immediate bearing—besides vigorous yearlings.

GOOSEBERRIES.—Large Lancashire sorts. Strong plants for immediate bearing.

CURRANTS.—Including the Cherry, Victoria, White Grape and many other new and fine sorts. See our Catalogue.

RASPBERRIES.—The new Large fruited Monthly, Fastolff, &c. &c. A complete collection of all desirable varieties.

GRAPES.—Hardy, native sorts—Isabella, Catawba, Clinton, &c.—strong 5 and 3 year old vines. Thirty varieties of Foreign Grapes, for vineries—strong, thrifty plants, in pots.

STRAWBERRIES of all desirable varieties, and all other fruits cultivated.

RHUBARB.—Genuine Myatt's Victoria, Myatt's Linnæus, Mitchell's Royal Albert, Downing's Collosal, and hybrids of the above, of our own raising from seed, quite equal to any of them.

The entire fruit department is under our own personal supervision. The best quality of stocks is used, and the most scrupulous attention given to insure accuracy. We flatter ourselves that no nursery collection can offer a stronger guarantee to purchasers, in this respect. The stock is all grown on new, fresh soil, and is healthy, well matured, and hardy. We ask purchasers to examine it.

ORNAMENTAL.—Large trees, for streets, parks, &c., such as Horse Chestnuts, Silver Maples, Sugar Maples, Snowy Abeles, Mountain Ash, Elms, and Tulip Trees, in large quantities, cheap.

RARE ORNAMENTAL LAWN TREES—embracing the most novel, remarkable, and beautiful trees and shrubs, both deciduous and evergreen, that can be grown in our climate. For particulars we must refer to the descriptive catalogue.

ROSES.—One of the richest collections in the country, including the newest and best European varieties, selected by us in person, last summer.

BULBOUS ROOTS—imported annually from Holland.

DAHLIAS.—The new English and French prize sorts of 1851 and 1852, besides fine older ones.

All articles packed in the best manner, and forwarded to any part of the United States, Canada, or California.

Orders strictly complied with in every particular.

The following catalogues are sent gratis to all who apply and enclose stamps to cover postage, which must be prepaid:

No. 1. A Descriptive Catalogue of Fruits.

No. 2. A Descriptive Catalogue of Ornamental Trees, Shrubs, &c.

No. 3. A Catalogue of Dahlias, Fuchsias, Chrysanthemums, and bedding plants.

No. 4. A Wholesale Catalogue, for nurserymen and others who wish to purchase largely.

Mount Hope Nurseries, Rochester, N. Y., March, 1853.

Evergreen Trees and Shrubs.

The following Evergreens can be supplied by the quantity, at low prices:

Norway Spruce, from 6 inches to 2 feet.
American White Spruce, 2 to 3 feet.
Balsam Fir, 2 to 4 feet.
Austrian Pine, 1 to 3 feet.
Scotch Fir, 1 to 3 feet.
Red Cedar, 1½ to 2 feet.
American Arbor Vitæ, 1 to 2 feet.
Chinese Arbor Vitæ, 2 to 3 feet.
Deodar Cedar, 1 to 1½ feet.
Chili Pine, (Auracaria imbricata,) 12 to 18 inches.
Japan Cedar, (Cryptomeria Japonica,) 1 to 5 feet.
Lofty or Bhotan Pine, (Pinus excelsa,) 1 foot.
Himalayan Spruce, (Abies morinda,) 6 to 12 inches.

And many other rare species and varieties, forming one of the most complete assortments of Conifers in the United States.

ELLWANGER & BARRY,
Feb. 1, 1853. Mt. Hope Nurseries, Rochester, N. Y.

HIGHLAND NURSERIES, NEWBURGH, N. Y.

A. SAUL & CO., in inviting the attention of their patrons and the public in general to their very extensive collection of

FRUIT & ORNAMENTAL TREES, SHRUBS, &c.,

would respectfully inform them that the stock which they offer for sale the coming spring is unusually fine, both as regards quality of trees, variety of kinds, &c., &c.

The soil and climate of the Hudson Highlands have rendered proverbial the success of the trees sent from here to all parts of the Union, and the accuracy and precision so indispensable in the propagation of fruit trees for which this establishment has long been celebrated, render errors in nomenclature of rare occurrence.

They have propagated in large quantities all the leading standard varieties which are proved best adapted for general cultivation, especially those recommended by the American Pomological Society, as well as all novelties both of native and foreign origin.

To particularize within the limits of an advertisement would be impossible; they refer to their General Catalogue, a copy of which will be sent to all post-paid applicants, on enclosing a Post Office stamp.

The following comprises a portion of their stock, and are all of fine growth, viz:

PEARS in over 400 varieties, both standards on their own stock for orchard culture, and on the quince for dwarfs, pyramids, and quenouelle, for garden culture.

APPLES in over 300 varieties, both standards and dwarfs.

CHERRIES, both standards and dwarfs.

PLUM, APRICOT, PEACH, NECTARINE, and QUINCE trees, in every variety.

GRAPE VINES, both native and foreign for vineries. Also, GOOSEBERRIES, (50 best Lancashire varieties,) CURRANTS, RASPBERRY, and STRAWBERRY plants, of all leading and known kinds, together with

SEA KALE, ASPARAGUS, and RHUBARB roots.

ORNAMENTAL TREES, SHRUBS, and VINES, both deciduous and evergreen, suitable for street and lawn planting, embracing all the new and rare Conifers, weeping trees, and shrubs of recent introduction.

ROSES in every variety, including Hybrid Perpetual, Hybrid Bourbon, Hybrid China, Hybrid Damask, Prairie, Boursault, Ayrshire, and other hardy climbing and garden varieties, as well as the more tender Tea, China, Bengal, Bourbon, and Noisette varieties.

HERBACEOUS PLANTS.—A large collection of Pæonies, Phloxes, Campanula, Penstemon, Œnothera, &c., &c.

DAHLIAS and BEDDING PLANTS, for the parterre and flower garden, in large quantities and variety.

HEDGE PLANTS.—100,000 Buckthorn and Osage Orange plants, two years growth; Arbor Vitæ for screens, &c., &c.

Dealers and Planters of trees on a large scale will be dealt with on the most liberal terms.

Newburgh, March, 1853.—2t.

North River Ag. Warehouse and Seed Store.

53 CORTLAND ST., NEW YORK.

GEORGE H. BARR & Co. invite the attention of Farmers, Planters, and others, to their large and varied assortment of Agricultural Implements, Seeds, Manures, &c., &c., all of which will be furnished at the lowest prices. Their assortment includes

PLOWS—All the improved kinds by the most approved makers.

HORSE POWERS—Of all kinds and sizes, with and without Threshers, &c.

CORN SHELLERS—All the approved kinds, and some of recent introduction.

STRAW CUTTERS—Of all sizes, and kinds, for hand and horse power.

CORN AND COB CRUSHERS—Of all kinds and sizes.

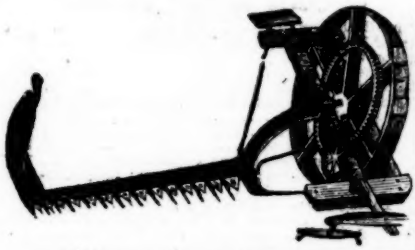
FANNING MILLS, CULTIVATORS, HARROWS, CHURNS of all the approved kinds.

RAKES, HOES, FORKS, and a general assortment of Horticultural and Garden tools.

New York Ag. Warehouse and Seed Store.

THE subscriber has constantly on hand the most extensive assortment of the best and latest improved Agricultural and Horticultural Implements, and Field and Garden Seeds, ever offered for sale in the United States, embracing every Implement, Machine, or Seed desirable for the planter, farmer, or gardener. Also, Guano, Bone Dust, Poudrette, Plaster of Paris, and Superphosphate of Lime.

R. L. ALLEN,
March, 1853.—3t. 189 & 191 Water St., New York.



KETCHUM'S PATENT MOWING MACHINE.

Howard & Co., Proprietors & Manufacturers,

BUFFALO, N. Y.

THIS justly celebrated machine has been steadily advancing in public favor, for its simplicity durability and efficiency—and it has settled the question beyond a doubt that grass can be cut by Horse Power; for during last season, five hundred of these machines were sold by us, and universally approved of by those who used them. Farmers were daily in the habit of cutting from ten to fifteen acres per day, with ordinary driving. It leaves the grass uniformly spread over the ground, requiring no turning to cure properly. In the Report of the Committee who served at the Trial of Mowing and Reaping Machines, held at Geneva in July last, they show fully and conclusively *this to have been the only machine in the field which cut its allotted two acres without clogging or any interruption*, doing its work admirably, and in far better manner than can be done by manual labor with a scythe. Our knives are not *sickle-edged*, consequently do not clog at every little hummock or bog they may happen to come in contact with. The Committee also show that there is an actual saving, by the use of this machine over hand labor, of $13 per day. We have only to refer those who want a perfect Mowing Machine to examine the Report and judge for themselves. This machine took the first premium as a mower, at the trial in Springfield, Ohio; a gold medal at the Fair of the American Institute, N. Y., also, first premium at the Provincial Fair at Toronto, C. W.

They are so very compact that one of them can be easily carried in an ordinary one-horse wagon, and so very simple that it requires no machinist to put it together, as there are but two bolts (beside the pole bolts) to be secured to have the machine ready for use, and which does not require over ten minutes time. They weigh about 750 lbs., and can be worked by any boy who can manage a team. We have made all the improvements suggested by experience in the way of strength, durability, &c., and sell them under the following warranty: That said machines are capable of cutting and spreading, with one span of horses and driver, from ten to fifteen acres per day, of *any kind of grass*, heavy or light, wet or dry, and do it as well as is done with a scythe by the best of mowers. They are equally capable of cutting barley, buckwheat, millet, &c. It is much less trouble to keep the knives in order than a scythe, as they have frequently been known to cut from ten to fifteen acres without sharpening, which can be done on an ordinary grind-stone in a few minutes. We can give any reference required, for the full performance of our machine, as above stated.

Orders should be sent in early, as we shall manufacture but a limited number. The price of our machine, including two sets of knives, extra knife blades, wrench, &c., is $110, cash, in Buffalo, the machine to be delivered on board of boat or cars free of charge.

Office and shop, corner of Chicago street and Hamburgh canal, near Eastern R. R. Depot, Buffalo.

March, 1853—tf. HOWARD & CO.

☞ J. RAPALJE & Co., are sole agents for the sale of the above machine in Rochester, which they will sell at manufacturers' prices.

Manures.

FERTILIZERS of all kinds for sale by the subscribers.

Improved Superphosphate of Lime, Superphosphate of Lime—both the above made after the recipe of Prof. Mapes.

Peruvian Guano, Sulphuric Acid, Bone-dust, Potash Sparlings, Poudrette, Plaster of Paris, &c. &c.

GEO. H. BARR & CO.
58 Cortland St., New York.

EMERY'S MOWER AND REAPER.

THE subscriber, not only having made himself practically acquainted with the construction and working of all the successful machines of this class, but having made and successfully introduced several valuable improvements in some classes of agricultural machinery, which have already gained favorable and world-wide reputation and adoption, flatters himself that he has also made an improvement in the construction of a Mower and Reaper of equal if not greater merit, than any of his former improvements.

It will suffice to say, that while this is the most compact, light, simple, cheap, durable, easy working machine, it is at the same time the most perfectly adjustable, and easily convertible into a Mower or Reaper, working as perfectly in either form as those of the best other kinds, whether simple or combined. The frame itself is so suspended upon the axis of the main wheel, as to be elevated and depressed at pleasure, so as to secure a horizontal or inclined (forward or back) position of the whole machine, at whatever elevation used, thus always having the cutting works in proper position.

In reaping, a reel is used, and the raker stands erect, face forward and directly behind the platform, with a support about him; the movable platform being on the same plane with the frame-work at the side of the discharge, and at the same time about two inches above the stubble. With the above introduction, and the diagrams to follow, together with those in this number of the Genesee Farmer, the public will have before them several machines from which to make a selection before purchasing for the coming season, and at the same time know what they are purchasing, much better than to be guided alone by impracticably written and published reports of committees of public trials, and be enabled to purchase only such articles as have their practical as well as theoretical merits plainly pointed out, or if not so pointed, to purchase only of responsible manufacturers, who are willing to back their machines by their reputation and capital.

For further particulars concerning the Reaper and Mower above described, address

HORACE L. EMERY, Albany, N. Y.

March, 1853.

☞ E. D. HALLOCK, No. 50 State street, Rochester, is agent for Western New York, and will have one put up in running order in his store. Those in his vicinity wishing to obtain a Reaper and Mower, are requested to call and examine the merits of the above machine before purchasing elsewhere.

Superphosphate of Lime.

THIS extraordinary fertilizer, the effects of which as a manure and general assistant to soils, has proved itself invaluable to the agriculturist. This most important constituent of the soil is being daily removed and taken up in solution by plants, and unless such substance be returned fertility must decrease and the land become poor, its promoting and pushing power of growth giving strength to young plants while in their tender state and fortifying them for early maturity, excels over all other *manures*. It is some ten years since its introduction in England, where, from its pronounced *magic effects*, its introducer received a patent right from the English government.

The progressive high repute of its properties has caused the demand to increase each year. At the present time some thousand *tons* are annually sold to the farmers.

The subscriber has had much experience in the peculiar manufacture of this manure in Europe, which leads him to suppose that he stands unequalled by any competitor. Some considerable quantity was sold last season and tried on various crops, the beneficial results of which has caused orders for forward delivery in the coming spring to a large extent. Being in a powder, it is easy in handling, may be drilled in with seed, sown, &c.

To prevent deception being practiced, all packages will henceforward be branded with the maker's name. For sale at the following Agricultural warehouses:

LONGETT & GRIFFING,
25 Cliff St., New York,
R. L. ALLEN, (late A. B. ALLEN & Co.,)
189 Water St., New York,

where purchasers may be sure of obtaining a chemically pure and genuine article.

☞ Enquire for C. B. DEBURG'S No. 1 Superphosphate of Lime. [9-3t]

Northern N. Y. Live Stock Insurance Company, Plattsburgh, N. Y. For terms, please apply to agents of the Company.

THE HORTICULTURIST,
And Journal of Rural Art and Rural Taste.

THIS is a Monthly Journal of 48 pages, beautifully printed on the finest paper, and elegantly illustrated, making one of the most beautiful Monthly Magazines published in the world. It is devoted to Horticulture, in its various departments, Rural Architecture, and to all that concerns Rural Life, and to the cultivation of Rural Taste.

It is edited by P. BARRY, so long known and esteemed as the Horticultural Editor of the *Genesee Farmer*, and published at the low price of $2 per year. A discount of 20 per cent. allowed to agents. JAMES VICK, Jr.,
Publisher, Rochester, N. Y.

NEW YORK AGRICULTOR,

AND FARM AND GARDEN.—PREMIUMS FOR SUBSCRIBERS—626 PRIZES, AMOUNTING TO $5,385.—While we are anxious to have our friends interest themselves in extending the circulation of our periodicals, we do not desire that they should labor without compensation. We, therefore, have made out the following premiums to those who will act as our Agents.

To the person sending us the largest number of subscribers, (and not less than 500,)..... $500
2d highest, (and not less than 250,)..... 250
3d highest, (and not less than 100,)..... 100
4th highest, (and not less than 75,)..... 75
5th highest, (and not less than 60,)..... 60
6th highest, (and not less than 50,)..... 50
5 next highest, (not less than 40) $40 each..... 200
10 next highest, (not less than 30) $30 each..... 300
15 next highest (not less than 20,) $20 each..... 300
30 next highest, (not less than 15,) $15 each..... 450
60 next highest, (not less than 10,) $10 each..... 600
500 next highest, (not less than 5,)..... 2,500

626 prizes, amounting to..... 5,385

Subscriptions to the Agricultor to be at $2 a year, and to the Farm and Garden at $1 a year. Two subscribers to the latter to be equivalent to one to the former. Subscribers for a shorter period to be counted proportionably, and the money in all cases to accompany the subscriptions.

The names to be forwarded as fast as they are obtained, with a note stating that they are sent for competition. The lists to be closed January 1, 1854.

THE UNSUCCESSFUL TO BE PAID.

To all persons who may be unsuccessful in obtaining a Premium,

WE WILL PAY A COMMISSION OF 25 PER CENT.

Specimen numbers will be forwarded to all desiring them, on application, postage paid, to the undersigned.

ALLEN & CO., Publishers.
April, 1853—1t. Nos. 189 and 191 Water-st., N. Y.

Land for Sale.

BY virtue of a deed of trust executed to me by James Boyd and Elizabeth his wife, to secure the payment of a sum of money therein expressed, I shall proceed to sell on THURSDAY, the 22d of April next, at public auction on the premises, for cash, a tract of Land lying about 4 miles from James River, on Chepoake Creek, in the county of Prince George, called and known as the WHITE HOUSE, containing about six hundred acres, and bounded on the East and South by Chepoake Creek, on the West by the land belonging to Mrs. Davidson, and on the North by the lands belonging to Wm. L. Shackleford, and lately owned by E. Fetlers; being the same tract of land conveyed to said James Boyd by John D. Mathews and wife.

There are about three hundred acres of cleared land, a portion of which has been maried, and lies well for farming purposes, and contiguous to the finest marl banks.—The buildings consist of a Dwelling House, two stories high, with four rooms and a passage; Kitchen, Smoke house, Barn, and Stable which can be put in good order at small expense. There are two Mills contiguous, one of them a Flouring Mill. Chepoake Creek abounds in fish and wild fowls. Any person desirous of viewing the land will be shown it by Mr. Wm. Boyd who resides on it. The title is believed to be indisputable, but I shall convey only such as is vested in me as Trustee.

April, 1853.—1t. JNO. ARMISTEAD.

Standard Pears.

PARSONS & CO., Flushing, near New York, offer for sale a large assortment of Pear trees upon Pear stock, of various sizes, including the finest varieties.

Their general Catalogue of Fruit and Ornamental Trees, Roses, &c. forwarded on application by mail. [4-2t]

CONTENTS OF THIS NUMBER.

Dairy Husbandry in New York,..... 105
Mapes' Improved Superphosphate of Lime,..... 108
Spring Work,..... 109
Cows and Calves,..... 111
British and American Agriculture,..... 112
CORRESPONDENCE.—Agriculture in California; Stable, Sandy Soils,..... 113
Wire Fence,..... 114
Culture of Carrots,..... 115
Plowing in Green Crops; Virginia Lands,..... 116
Value of a Garden; Shanghae Fowls; Illinois Farming,..... 117
Fatting Calves—Potato Culture; Needle in the diaphragm of a Cow; Hoosier Farming,..... 118
Hereford Cattle,..... 119
EDITORS' TABLE.—Notices, &c.,..... 120
Inquiries and Answers,..... 125

HORTICULTURAL DEPARTMENT.

Heading in Trees at the time of transplanting,..... 127
North Western Fruit Growers' Association,..... 129
Fruits in Michigan,..... 131
How to destroy the Aphis in the Orchard and Nursery, 132
The Curculio,..... 134
Answers to Correspondents,..... 135

2,000 Virgalieu Pear Trees.

TWO years old, grafted on seedling stocks, 4 to 6 feet high, $35 per 100, $300 per 1000.

Osage Orange, 1 year old, $1 per 100 $8 per 1000
Red Cedar, 1 foot high, $5 per 100, $40 per 1000.
American Arbor Vitæ, 1 foot high, $3 per 100, $25 per 1000.
Horse Chestnuts, Elms, Whitewoods, Basswoods, Maples, &c., suitable for street planting.

EVERGREENS.—Balsam Fir, Norway Spruce, White Spruce, Red Cedar, American Arbor Vitæ, &c., of large size and fine form.

And a general assortment of Fruit and Ornamental Trees, Shrubs, Roses, &c., &c., for sale by the subscribers at their Nursery in Waterloo, Sen. Co., N. Y.

Orders solicited from all parts of the country.
[4-1t] DELL & COLLINS.

The Practical and Scientific Farmer's own Paper.

THE GENESEE FARMER,
A MONTHLY JOURNAL OF
AGRICULTURE AND HORTICULTURE,
ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF
Farm Buildings, Domestic Animals, Implements, &c.

VOLUME XIV, FOR 1853.

DANIEL LEE, JAMES VICK, Jr., & JOSEPH HARRIS, EDITORS.

P. BARRY, Conductor of Horticultural Department.

Fifty Cents a Year, in Advance.

Five Copies for $2—Eight Copies for $3, and any larger number at the same rate.

☞ All subscriptions to commence with the year, and the entire volume supplied to all subscribers.

☞ POST-MASTERS, FARMERS, and all friends of improvement, are respectfully solicited to obtain and forward subscriptions.

Subscription money, if properly enclosed, may be sent (post-paid or free) at the risk of the Publisher. Address to
DANIEL LEE,
November, 1852. *Rochester, N. Y.*

POSTAGE LAW.—By the new Postage Law, which took effect on the 1st of September last, the postage on the *Genesee Farmer* for one year is as follows,—when paid quarterly in advance:

Anywhere in the State of New York,..3 cts.
Anywhere in the United States,.....6 cts.

STEREOTYPED BY J. W. BROWN, ROCHESTER, N. Y.